| <b>EPA</b> | <b>REGIST</b> | <b>TRATION</b> | <b>NUMBER</b> | 524-445 - | - Vol. | 3 |
|------------|---------------|----------------|---------------|-----------|--------|---|
|------------|---------------|----------------|---------------|-----------|--------|---|

### SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, the label for tank mix products and this supplement.



EPA Reg. No. 524-445

ROUNDUP HERBICIDE AND TANK MIXTURES FOR NONCROP AREAS, INCLUDING RAILROAD RIGHTS-OF-WAY, UTILITY SUBSTATIONS, AIRPORTS, INDUSTRIAL PLANTS, ROADSIDES, STORAGE AREAS AND SIMILAR SITES.

## Keep out of reach of children. WARNING! AVISO!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the "GENERAL INFORMATION", "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" and "NONCROP USES" sections of the label booklet for Roundup for essential product information.

Do not allow spray mixtures of this herbicide to mist, drip, drift or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions favor drift.

See the "WEEDS CONTROLLED" section of the Roundup label booklet for rate recommendations. For difficult to control species, where dense stands occur, or where conditions for control are not ideal, 5 to 10 quarts per acre of this product may be used for improved results.

#### **TANK MIXTURES**

This product provides control of the emerged weeds listed in the label booklet. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product. Any recommended rate of this product may be used in a tank mixture with these products.

#### **Tank Mix Product**

| Arsenal <sup>TM</sup> * |
|-------------------------|
| Banvel                  |
| 2,4-D                   |
| Garlon™ 3A              |
| Garlon 4                |
| Diuron                  |
| Diuron + 2,4-D          |
| Diuron + Garlon 3A      |
| Diuron + Garlon 4       |
| Hyvar™ X                |
| Hyvar X + 2,4-D         |
| Hyvar X + Garlon 3A     |
| Hyvar X + Garlon 4      |
| Krovar™ I DF            |
| Krovar I DF + 2,4-D     |
| Krovar I DF + Garlon 3A |
| Krovar I DF + Garlon 4  |
| Oust™                   |
| Oust + 2,4-D            |
| Oust + Garlon 3A        |
| Oust + Garlon 4         |
| Spike™ 80W              |
| Spike 80W + 2,4-D       |
| Spike 80W + Garlon 3A   |
| Spike 80W + Garlon 4    |

\*Arsenal is not approved for use in the state of California.

Refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

Maintain good agitation at all times during the mixing process. Ensure that the tank mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution which can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Nonionic surfactants which are labeled for use with herbicides may be used. Use a 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution). Use surfactants that contain at least 50 percent active OT REVIEWED

#### Rate per acre

0.5 to 4 pints

| olo to a buito                 |
|--------------------------------|
| 1 to 4 pints                   |
| 0.5 to 1 pound                 |
| 1 to 6 pints                   |
| 1 to 6 pints                   |
| 4 to 8 pounds                  |
| 4 to 8 pounds + 0.5 to 1 pound |
| 4 to 10 pounds + 1 to 2 pints  |
| 4 to 10 pounds + 1 to 2 pints  |
| 4 to 8 pounds                  |
| 4 to 8 pounds + 0.5 to 1 pound |
| 4 to 8 pounds + 1 to 2 pints   |
| 4 to 8 pounds + 1 to 2 pints   |
| 4 to 6 pounds                  |
| 4 to 6 pounds + 0.5 to 1 pound |
| 4 to 6 pounds + 1 to 2 pints   |
| 4 to 6 pounds + 1 to 2 pints   |
| 2 to 6 ounces                  |
| 2 to 6 ounces + 0.5 to 1 pound |
| 2 to 6 ounces + 1 to 2 pints   |
| 2 to 6 ounces + 1 to 2 pints   |
| 2 to 5 pounds                  |
| 2 to 5 pounds + 0.5 to 1 pound |
| 2 to 5 pounds + 1 to 2 pints   |
| 2 to 5 pounds + 1 to 2 pints   |
|                                |

ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

When used in combination as recommended by Monsanto Company, the liability of Monsanto shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the Monsanto product in such combination use.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

™ Arsenal is a trademark of American Cyanamid Company.

™ Banvel is a trademark of Sandoz Crop Protection Corporation

Corporation

™ Garlon and Spite are trademarks of DowElanco
Products Company.

™ Hyvar, Krovar and Oust are trademarks of E. I

duPont de Nemours and Company.

©MONSANTO COMPANY 1994

MONSANTO COMPANY ... AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

In Accordance with PR Notice 82-2.
Eased on Draft Labeling Dated | 2/4/93

<sup>\*</sup>Roundup is a registered trademark of Monsanto Company.

## **Monsanto**

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

#### March 21, 1994

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor

Product Manager (25)

Subject: Roundup® Herbicide (EPA Reg. No. 524-445)

Submit Final Printed Supplemental Label

Dear Sir:

The supplemental label for Roundup Herbicide to allow tank mixing Roundup with various products and/or combinations thereof for noncrop areas, including railroad rights-of-way, utility substations and similar sites was approved on December 9, 1993. Attached are five (5) copies of the final printed label.

If you have any questions regarding this submission, please contact Dr. Russell Schneider at our Washington office or me at 314-694-2124.

Sincerely,

Lydia A. Suba

Registration Manager

cc: R.P. Schneider D.M. Fee-White D.A. Humphrey

| (A) SEP   | United States Environmental Prote Office of Pesticide Programs Washington, DC 2046 Application for Pe  | (H7505C)   | Registrat<br>Amendmo   |  |
|---|--|--|------------------------|--|
|   | Section  |  |                        | Selection Vision   |
| 1. Company/Product Numb   | er 524-445   | 2. EPA Product Manage  | er                     | 3. Proposed Classification   |
| ALIS ALISERY  | 324-443  | Robert J. Tay  | lor                    |  |
| 4. Company/Product (Name<br>Roundup® He   |  | PM# 25   |                        | X None Restricted  |
| 700 14th  | o Company<br>o Street, N.W., Suite 1100<br>con, D.C. 20005   |  |                        | e with FIFRA Section 3(c)(3<br>al in composition and labeling                |
| Check if this   | is a new address   | Product Name_  |                        |  |
| A THE REAL PROPERTY.  | Section I I  |  | 可能持有可                  | THE REAL PROPERTY.   |
| Amendment - Explain to Resubmission in respo  | onse to Agency letter dated  | X Final printed label Agency letter date "Me Too" Applicat   | ed                     |  |
| Explanation: Use addition   | nal page(s) if necessary. (For section I and S   |  |                        | or noncrop areas.  |
| Explanation: Use addition  Submit fincludin   |  | Section II.) emental to tank utility substati  | mixtures f             |  |
| Explanation: Use addition  Submit fincluding plants,  | nal page(s) if necessary. (For section I and S<br>final printed label - Suppl<br>ag railroad rights-of-way,<br>roadsides, storage areas a<br>Section III   | Section II.) emental to tank utility substati  | mixtures f             |  |
| Explanation: Use addition  Submit from including plants,  | nal page(s) if necessary. (For section I and Sinal printed label - Supplag railroad rights-of-way, roadsides, storage areas a  | emental to tank utility substati nd similar sites  | mixtures f             | rts, industrial  |
| Explanation: Use addition  Submit fincluding plants,  | rinal printed label - Supplag railroad rights-of-way, roadsides, storage areas a  Section III  Will Be Packaged In:  Unit Packaging  Yes  No   | emental to tank utility substati nd similar sites  Soluble Packaging Yes                               | mixtures flons, airpo  | ntainer etal eastic lass aper  |
| Explanation: Use addition  Submit from including plants,  1. Material This Product V  Child-Resistant Packaging  Yes*   | rinal printed label - Supplag railroad rights-of-way, roadsides, storage areas a  Section III  Will Be Packaged In:  Unit Packaging  Yes  No. per Unit Package wgt.  No. per Container  Virginal printed label - Supplage areas a  Section III  Water  The Package of | emental to tank utility substati nd similar sites  Soluble Packaging  Yes  No s," No. per container    | mixtures flons, airpo  | ntainer etal astic lass aper ther (Specify)                                  |
| Explanation: Use addition  Submit from including plants,  1. Material This Product V  Child-Resistant Packaging  Yes*  X  No  * Certification must be submitted.  3. Location of Net Contents | roadsides, storage areas a  Section III  Will Be Packaged In:  Unit Packaging  Yes  No. per Unit Package wgt.  No. per Unit Package wgt.  No. per Container  If "Yes," Unit Package wgt.   | emental to tank utility substati nd similar sites  Soluble Packaging  Yes  No s," No. per container    | mixtures f Lons, airpo | ntainer etal astic lass aper ther (Specify)                                  |
| Explanation: Use addition  Submit from including plants,  1. Material This Product V  Child-Resistant Packaging  Yes*  X  No  * Certification must be submitted.  3. Location of Net Contents | rinal printed label - Supplag railroad rights-of-way, roadsides, storage areas a  Section III  Will Be Packaged In:  Unit Packaging  Yes  No. per Container  Unit Package wgt.  Information  4. Size(s) of Retail Container  | emental to tank utility substati nd similar sites  Soluble Packaging  Yes  No s," No. per container    | mixtures f Lons, airpo | ntainer etal astic lass aper ther (Specify)                                  |
| Submit fincluding plants,  1. Material This Product V Child-Resistant Packaging Yes* X No * Certification must be submitted. 3. Location of Net Contents Label C 6. Manner In Which Label Is  | rinal printed label - Supplag railroad rights-of-way, roadsides, storage areas a  Section III  Will Be Packaged In:  Unit Packaging  Yes  No. per Unit Package wgt.  If "Yes," Unit Package wgt.  Sinformation  4. Size(s) of Retail Container  Sontainer  S Affixed To Product  Lithograph Paper glued  | emental to tank utility substational similar sites of Soluble Packaging  Yes  No s," ontainer  Other ( | mixtures f lons, airpo | ntainer etal astic lass aper ther (Specify)  Directions accompanying product |

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonmentate. both under applicable law. 3. Title 2. Signature

Certification

Registration Manager

5. Date

Mqrch 21, 1994

Yellow - Applicant copy

Date Application

Received (Stamped)

Lydia A. Suba

4. Typed Name

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4); Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling; 5. Three copies of any data submitted; Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

<u>SECTION I</u> - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
  to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include

any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be

similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach

a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.

Type of Retail Container - Indicate type of container in which product will be marketed.
 Location of Met Container - Specify the net contents of all retail containers for your product.
 Size(s) of Retail Container - Specify the net contents of all retail containers for your product.

5. Location of Use Directions - Indicate the Location of the use directions for your product.

6. Manner in Mich label to affixed to product - Indicate the method product label is attached to retail container.

SECTION IV. (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. 1-5. Self-explanatory.

6. EPA Use Only.

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and

this supplement.

MOT REVIEWED

Roundur by Monsanto In Accordance with PR Notice 82-2. Based on Draft Imbaling Dated

EPA Reg. No. 524-445

## ROUNDUP HERBICIDE FOR USE IN DORMANT RANGELAND

Keep out of reach of children. WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLI-AGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE IN-JURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup herbicide for essential product performance information.

#### RECOMMENDATIONS

This product will control or suppress many weeds, including downy brome, cheat grass, cereal rye, medusahead rye and jointed goatgrass in dormant rangeland.

Apply 8 to 16 ounces per acre of this product in the early spring when the weeds have greened up, but desirable grasses, such as crested and tall wheatgrass are still truly dormant.

Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off.

Do not use additional surfactant or ammonium sulfate when spraying dormant rangeland grasses with Roundup.

Do not make more than one application per year.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

MAP-3529-6/22/93

©Monsanto Company 1993

MONSANTO COMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOURI 63167

## **Monsanto**

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

March 7, 1994

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup® Herbicide (EPA Reg. No. 524-445)

**Submission of Final Printed Labels:** 

Supplemental Label for Use in Dormant Rangeland

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows the use of Roundup in dormant rangeland, was approved by the Agency on May 26, 1993.

Enclosed are five (5) copies of the label (version MAP-3529-6/22/93).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

Shula a Schuette

(314) 694-7248

cc: R.P. Schneider

**OPP** Identifier Number



United States Environmental Protection Agency Office of Pesticide Programs (H7505C)

Registration

| Application  | on for Pe               |  | ide:                          | X                        |      | ther         | ient                      | 207797   |
|--|-------------------------|--|-------------------------------|--------------------------|------|--------------|---------------------------|--|
|  | Section I               |  | 1140000                       | 1 67                     | 61   | A sufficie   |                           | in the second section  |
| Company/Product Number   |                         | 100  | PA Product M                  |                          |      | 3790-1       | 3. Pr                     | oposed Classification  |
| 524-445  | E GR                    |  | bert J.                       | Tay1                     | or   |              | - V                       | None Restricted  |
| 4. Company/Product (Name)  Roundup® Herbicide  |                         | PM#  | 25                            |                          |      |              | A                         | Hestricted .   |
| Name and Address of Applicant (Include ZIP Code)   | THE REAL PROPERTY.      | 6. E   | xpedited R                    | eview                    | . Ir | accordar     | ce with                   | FIFRA Section 3(c)(3)  |
| Monsanto Company<br>700 14th Street, N.W., Suite 11<br>Washington, D.C. 20005  | 100                     | (b)(i<br>to:   |                               |                          |      |              |                           | emposition and labeling  |
| Check if this is a new address   |                         | Proc   | luct Name_                    |                          | 3.4  |              | - In-                     |  |
| 5  | Section II              | _  | 1                             |                          |      |              | 7740                      |  |
| Amendment - Explain below  |                         | X  | Final printed<br>Agency lette |                          |      | response to  | 1307                      |  |
| Resubmission in response to Agency letter dated  | N. William              |  | "Me Too" Ap                   | polication               | on   |              |                           |  |
| Notification - Explain below.  |                         | 1  | Other - expl                  |                          |      |              |                           |  |
| Explanation: Use additional page(s) if necessary. (For se  | ection Land S           | ection   | 11.)                          | 1                        | 1000 |              | or the last               | THE RESERVE OF THE PARTY OF THE |
|  | ection III              | The state of the s |                               |                          |      | ALC: NO      | The state of              | All Street   |
| 1. Material This Product Will Be Packaged In:  | Lor.                    | 0.1.1.   | Polledin                      | o market                 | In   | Tues of C    | antala au                 | Salt ven   |
| Child-Resistant Packaging Unit Packaging   |                         |  | e Packaging                   |                          | 1    | . Type of C  |                           |  |
| Yes*  X No X No  | 7                       | Yes<br>No  |                               |                          | 1    | X            | Metal<br>Plastic<br>Glass |  |
| * Certification must be If "Yes," No. pe contain   |                         |  |                               | per                      |      |              | Paper<br>Other (Sp        | pecify)  |
| submitted.  3. Location of Net Contents Information 4. Size(s  | ) of Retail Co          | ntaine   | r                             | 5. 1                     | Loca | ation of Lab | el Directi                | ions   |
|  | rious                   |  |                               | 2                        |      | On Labelia   | a accom                   | panying product  |
| 6. Manner In Which Label Is Affixed To Product Li  | ithograph<br>aper glued | 15   | X Ott                         | ner (_\tag{\tag{\tag{V}} |      | yl glue      |                           | panying product  |
| S  | tenciled                |  | I WELL                        | 100,0                    | 110  | AT AIT OF    | The Trans                 | MAN SHIPP TO   |
| Contact Point (Complete items directly below for identified  | Section IV              |  | n ha contacts                 | d if no                  | 000  | cany to or   | coes this                 | application 1  |
| Name   | Title                   |  | 1965 Va. 410 Va               | 49913                    | 24   | T            |                           | No. (Include Area Code)  |
| Dr. Russell P. Schneider   | Agr                     | icul<br>ecto   | tural Re                      | gula                     | ati  | on           | Jones, .                  | 783-2460   |
| Certifica  | ation                   |  | Section 1                     | 750                      | 31   | September 1  | 111110                    | 6. Date Application  |
| I certify that the statements I have made on this form and I acknowledge that any knowingly false or misleading state both under applicable law. | all attachmen           |  |                               |                          |      |              |                           | Received (Stamped)   |
| 2. Signature<br>Sheila a. Schuette   | 3. Title<br>Manag       | er,  | Regulato                      | ry A                     | Aff  | airs         |                           |  |
| 4. Typed Name Sheila A. Schuette, Ph.D.  | 5. Date                 | Sn   | parch                         | ) ;                      | Z,   | 1994         | !                         | 8  |

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4); 3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted; 6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

- SECTION I This section must be completed, as applicable, for all registration actions.
   Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered

 Product. This section is not to be used for a new application for registration.
 Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
- Indicate the size of the individual packets and number per retail container.

  2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Specify the net contents of all retail containers for your product.
- Size(s) of Retail Container Specify the net contents of all retail containers for your product.
   Location of Use Directions Indicate the location of the use directions for your product.

17 Exch 3 1994

6. Manner in which label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory.

6. EPA Use Only.

9

## SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE AND THE "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" SUPPLEMENTAL LABEL BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" supplemental label, and this supplement.

In Accordance with PR Notice 82-2.
Based on Draft Labeling Dated

12/9/93

(EPA Reg. No. 524-445)

# FOR AERIAL APPLICATION IN FRESNO COUNTY, CA ONLY FROM FEBRUARY 15 THROUGH MARCH 31 ONLY.

FOR AERIAL APPLICATION OUTSIDE THESE DATES, REFER TO THE "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" STATEWIDE SUPPLEMENTAL LABEL.

## Keep out of reach of children. WARNING! AVISO!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup® is a registered trademark of Monsanto Company.

### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for essential product information.

See the "CROPPING SYSTEMS" section of the label booklet for specific recommendations on the use of this product.

Applicable Area

This supplement only applies to the area contained inside the following boundaries within Fresno County, California only.

North: Fresno County line
South: Fresno County line
East: State Highway 99
West: Fresno County line

#### **GENERAL INFORMATION**

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize offsite movement during aerial application of Roundup herbicide. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor, and aerial applicator.

#### Written Recommendations

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's applicable product label(s) and this label have been satisfied.

**Aerial Applicator Training and Equipment** 

Aerial application of Roundup herbicide is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight, and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved "fly-ins" constitutes such documentation, or other written records showing calculations

and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Application at night - Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of Roundup herbicide, call 1-800-ROUNDUP.

For additional information on the proper aerial application of Roundup herbicide, call (916) 784-1718.

Read the \*LIMIT OF WARRANTY AND LIABILITY in the label for Roundup herbicide before using this product. Those terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

7.00

© MONSANTO COMPANY-1994

MONSANTO COMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOURI 63167

10

## Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

January 28, 1994

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention: Mr

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup® Herbicide (EPA Reg. No. 524-445)

**Submission of Final Printed Labels:** 

Supplemental Label for Aerial Application in Fresno County, CA

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which provides instructions for aerial applications in Fresno County, CA, was approved by the Agency on December 9, 1993.

Enclosed are five (5) copies of the label (version MAP-3579-1/26/94).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Registration Manager

Shila a. Schuette.

(314) 694-7248

cc: R.P. Schneider



United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460 plication for Posticide

Registration **Amendment** 

**OPP** Identifier Number

207760

|  | B. Const. C. T.   | Sec  | ction I  |  | No. of Lot of  | Many at S  |  | CHILL SO VIII                          |
|--|---|--|--|--|--|--|--|--|
| I. Company/Product Number  |   |  | 2  | . EPA Product Ma   |  | 3. F   | Proposed   | Classification                         |
|  | 524-445   | PARTY .  | 100  | Robert J. 7  | Taylor   |  | 7  |  |
| 4. Company/Product (Name   | 9)  |  | F  | PM#  |  | X  | None   | Restricted                             |
| Roundup® Herbi   | cide  |  |  | 25   |  |  |  |  |
| Monsanto Compar<br>700 14th Stree  | ny<br>t, N.W., Suit   |  | <ol> <li>Expedited Review. In accordance with FIFRA Section 3(c)(3<br/>(b)(i), my product is similar or identical in composition and labelin<br/>to:</li> </ol>  |  |  |  |  |  |
| Washington, D.   | C. 20005  |  | 1  | EPA Reg. No  | Acuri Short  | AND THE REAL PROPERTY.   | RIGHT  | and the second                         |
| Check if this  | is a new address  |  | ı  | Product Name   |  | - lower  |  |  |
| DE MARIE DE LA   | MAIN MAIN   | Sect   | ion I I  | STREET, IN   | THE HAR  |  | COLUMN TO SERVE                                      |  |
| Amendment - Explain b  |   | datad  |  | X Final printed Agency lette   | labels in respo  | nse to<br>2/9/93   | 2/11/  | LIN                                    |
| Resubmission in respon   | E HELPHY GO   | dated  | The state of the s | "Me Too" Ap  | plication.   |  |  |  |
| Notification - Explain be  | elow.   |  | 4 500  | Other - expla  | ain below.   |  |  |  |
| xplanation: Use addition   |   |  |  |  |  |  |  |  |
|  | HELD PULL   | Section  | - 111  |  |  |  |  | The same                               |
|  |   | Section  | on III   |  |  |  |  |  |
| . Material This Product W  | /ill Be Packaged In:  | Section  | on III   |  | Land Committee   |  |  |  |
|  | Vill Be Packaged In:<br>Unit Packaging  | Section  |  | oluble Packaging   | 2. Typ   | e of Containe  | er   |  |
|  |   | Section  |  |  |  | Metal  | er   |  |
| Child-Resistant Packaging Yes*   | Unit Packaging Yes  | Section  | Water So   | s  |  | Metal<br>X Plastic   | er   |  |
| child-Resistant Packaging  | Unit Packaging Yes X No   |  | Water So<br>Ye<br>X No   | s  |  | X Plastic<br>Glass<br>Paper  |  |  |
| Child-Resistant Packaging Yes*  X No  Certification must be  | Unit Packaging Yes  | No. per container  | Water So   | s<br>No.   |  | Metal<br>X Plastic<br>Glass  |  | Pu                                     |
| Certification must be submitted.  3. Location of Net Contents  | Unit Packaging Yes X No If "Yes," Unit Package wgt.   | No. per  | Water So Ye X No If "Yes," Package   | s No. wgt. conf  | per tainer  5. Location (X) On L   | Metal Plastic Glass Paper Other (S   | Specify)   | product                                |
| Certification must be submitted.  Label  Label  Label  Label  Lackaging  Yes*  No  Certification must be submitted.  | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer   | No. per container  4. Size(s) of F vario  Lithogr Paper  | Water So Ye X No If "Yes," Package Retail Contus   | s No. wgt. conf  | per tainer  5. Location (X) On L   | Metal Plastic Glass Paper Other (S   | Specify)   | product                                |
| Child-Resistant Packaging Yes*  X No  Certification must be submitted. Location of Net Contents  Label X Certification must be submitted.  | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer   | No. per container  4. Size(s) of F vario  Lithogr Paper Stencil  | Water So Ye X No If "Yes," Package Retail Contus raph glued led  | No. cont   | per tainer  5. Location (X) On L   | Metal Plastic Glass Paper Other (S   | Specify)   | product                                |
| Yes*  X No  * Certification must be submitted.  3. Location of Net Contents  | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer s Affixed To Product  | No. per container  4. Size(s) of F vario  Lithograper Stencil  | Water So Ye X No If "Yes," Package Retail Contus raph glued led tion IV  | wgt. Cont  | per tainer  5. Location of X On L X On L X On L Y On L   | Metal Plastic Glass Paper Other (S   | Specify)_<br>ctions<br>mpanying                      |  |
| No  Certification must be submitted. Location of Net Contents Label X Co. Manner In Which Label Is   | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer s Affixed To Product  | No. per container  4. Size(s) of F  Vario  Lithogr Paper Stencil  Sector identification  | Water So Ye X No If "Yes," Package Retail Contus raph glued led tion IV of individual title  | wgt. No. confiner  X Other   | per tainer  5. Location of the per tainer  7. Location of the per tainer  7. In the per tainer  9. If necessary,   | Metal Plastic Glass Paper Other (S   | Specify)_ctions mpanying mis applica ne No. (I       | lion.)                                 |
| Certification must be submitted. Location of Net Contents Label X Co. Manner In Which Label Is Contact Point (Complete lame  | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer s Affixed To Product  items directly below ts I have made on this nowingly false or mis           | No. per container  4. Size(s) of F  Vario  Lithogr Paper Stencil  Sectifor identification  Certification s form and all all  | Water So Ye X No If "Yes," Package Retail Contus raph glued led tion IV of individual Title Agri Dire  | wgt. No. container  X Other wal to be contacted cultural Rector  | per tainer  5. Location of the control of the contr | Metal Plastic Glass Paper Other (Some of Label Direct abeliand according acc | Specify)_ctions mpanying mis applica ne No (III 783- | lion.)                                 |
| Certification must be submitted.  Location of Net Contents  Label X Contact Point (Complete lame  Dr. Russell P.  I certify that the statement I acknowledge that any k both under applicable law  Signature                         | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer Affixed To Product  items directly below  Schneider  ts I have made on this nowingly false or mis | No. per container  4. Size(s) of F vario  Lithogr Paper Stencil  Sectifor identification s form and all at sleading statements   | Water So Ye X No If "Yes," Package Retail Contus raph glued led tion IV of individual Title Agrip Dire ttachments ent may be Title . Title   | wgt. No. container  X Other wal to be contacted cultural Rector  | per tainer  5. Location of the control of the contr | Metal Plastic Glass Paper Other (Solution of Label Direct abel abeling according accor | Specify)_ctions mpanying mis applica ne No (III 783- | von.) notude Area Cod 3460 Application |
| Certification must be submitted. Location of Net Contents Label X Co. Manner In Which Label Is Contact Point (Complete lame Dr. Russell P. I certify that the statement I acknowledge that any k both under applicable law Signature | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer s Affixed To Product  items directly below ts I have made on this nowingly false or mis           | No. per container  4. Size(s) of F vario  Lithogr Paper Stencil  Sect for identification of the stence of the sten | Water So Ye X No If "Yes," Package Retail Contus raph glued led tion IV of individual Title Agrip Dire ttachments ent may be Title . Title   | wgt. No. confine in a confine i | per tainer  5. Location of the control of the contr | Metal Plastic Glass Paper Other (Solution of Label Direct abel abeling according accor | Specify)_ctions mpanying mis applica ne No (III 783- | von.) notude Area Cod 2460 Application |

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 N Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4); 3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling; 5. Three copies of any data submitted; 6. Authorization letter where applicable; 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

<u>SECTION I</u> - This section must be completed, as applicable, for all registration actions.

Company/Product Number - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.

2. EPA Product Manager - If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include

any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency Letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered

 Product. This section is not to be used for a new application for registration.
 Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.

... indicate the size of the individual packets and number per retail container.

2. Type of Retail Container - Indicate type of container in which product will be marketed.
3. Location of Met Contents - Specify the net contents of all retail containers for your product.

4. Size(s) of Retail Container - Specify the net contents of all retail containers for your product.

5. Location of Use Directions - Indicate the location of the use directions for your product.

6. Manner in which label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. 1.5. Self-explanatory. Tura a. Setul

6. EPA Use Only.

13

DEC - 9 1993

T. P. T. T.

Ms. Lydia A. Suba Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005

Dear Ms. Suba:

Subject: Roundup Herbicide (Tank-Mixes for Non-Crop Areas) EPA Registration No. 524-445 Your Application Dated September 22, 1993

The labeling submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. Please submit five (5) copies of your final printed labeling before you release the product for shipment.

Note that this labeling does not bear the required Worker Protection statments as outlined in PR Notices 93-7 and 93-11. We note that you have submitted labels in accordance with the instructions in those Notices. The new protective language in those submissions must be melded into this label for any shipments released after the deadlines that have been established. You may opt to do so immediately if you are electing the self-verification option, or after acceptance by the special Agency Worker Protection Standard review group. Finshed printed labels should be submitted after acceptance by the WPS group and in accordance with their instructions.

Sincerely,

Robert J. Taylor Product Manager 25 Fungicide-Herbicide Branch Registration Division (H7505C)

#### SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, the label for tank mix products and this supplement.

#### ROUNDUP

#### HERBICIDE BY MONSANTO

EPA Reg. No. 524-445

ROUNDUP HERBICIDE AND TANK MIXTURES FOR NONCROP AREAS, INCLUDING RAILROAD RIGHTS-OF-WAY, UTILITY SUBSTATIONS, AIRPORTS, INDUSTRIAL PLANTS, ROADSIDES, STORAGE AREAS AND SIMILAR SITES.

Keep out of reach of children.

#### WARNING!

In case of emergency involving this product, call Collect, day or night, 314-694-4000.

®Roundup is a registered trademark of Monsanto Company.

#### Directions for Use

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the "GENERAL INFORMATION", "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" and "NONCROP USES" sections of the label booklet for Roundup for essential product information.

Do not allow spray mixtures of this herbicide to mist, drip, drift or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions: Tayor drift.

See the "WEEDS CONTROLLED" section of the Roundup label booklet for rate recommendations. For difficult to control species, where dense stands occur, or where conditions for control are not ideal, 5 to 10 quarts per acre of this product may be used for improved results. in EPA Letter Dated:

DEC - 9 1993

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 524-445

#### TANK MIXTURES

This product provides control of the emerged weeds listed in the label booklet. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product. Any recommended rate of this product may be used in a tank mixture with these products.

Tank Mix Product Arsenal™ Banvel 2,4-D Garlon™ 3A Garlon 4 Diuron Diuron + 2,4-D Diuron + Garlon 3A Diuron + Garlon 4 Hyvar™ X Hyvar X + 2,4-DHyvar X + Garlon 3A Hyvar X + Garlon 4 Krovar™ I DF Krovar I DF + 2,4-D Krovar I DF + Garlon 3A Krovar I DF + Garlon 4 Oust<sup>TM</sup> Oust + 2,4-D Oust + Garlon 3A Oust + Garlon 4 Spike™ 80W Spike 80W + 2,4-D Spike 80W + Garlon 3A Spike 80W + Garlon 4

Rate per Acre 0.5 to 4 pints 1 to 4 pints 0.5 to 1 pound 1 to 6 pints 1 to 6 pints 4 to 8 pounds 4 to 8 pounds + 0.5 to 1 pound 4 to 10 pounds + 1 to 2 pints 4 to 10 pounds + 1 to 2 pints 4 to 8 pounds 4 to 8 pounds + 0.5 to 1 pound 4 to 8 pounds + 1 to 2 pints 4 to 8 pounds + 1 to 2 pints 4 to 6 pounds 4 to 6 pounds + 0.5 to 1 pound 4 to 6 pounds + 1 to 2 pints 4 to 6 pounds + 1 to 2 pints 2 to 6 ounces 2 to 6 ounces + 0.5 to 1 pound 2 to 6 ounces + 1 to 2 pints 2 to 6 ounces + 1 to 2 pints 2 to 5 pounds 2 to 5 pounds + 0.5 to 1 pound 2 to 5 pounds + 1 to 2 pints 2 to 5 pounds + 1 to 2 pints

\*Arsenal is not approved for use in the state of California.

Refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

**新疆** 

Maintain good agitation at all times during the mixing process. Ensure that the tank mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution which can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Nonionic surfactants which are labeled for use with herbicides may be used. Use a 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution). Use surfactants that contain at least 50 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

When used in combination as recommended by Monsanto Company, the liability of Monsanto shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the Monsanto product in such combination use.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

Marsenal is a trademark of American Cyanamid Company.

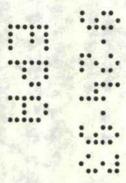
MBanvel is a trademark of Sandoz Crop Protection Corporation.

MGarlon and Spike are trademarks of DowElanco Products Company.

MHyvar, Krovar and Oust are trademarks of E. I duPont de Nemours and Company.

MONSANTO COMPANY 1993

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167



| -    |      | MISSION REVIEW RECORD                       | 1.                   | A    | EGISTRA | TION   | SEMUN | А     | alek i | CY  | 3.5  | 2.                  | CA    | TEA    | ECE   | CEV    |
|------|------|---|----------------------|------|---------|--------|-------|-------|--------|-----|------|---------------------|-------|--------|-------|--------|
|      |      | G   |                      | 5    | 24      | -      | 18    | 4     | 45     |     |      | i                   | 0     | 01     | 7     | 9/3    |
| 3.   | 30:0 | PUBLICATION NECESSARY                       | 4. PETI              | TION | NO.     |        |       | 186   | N.W.   |     | 9 9  | 5.                  | PECE  | IVES   | PM    | TEAM   |
|      |      | ves and                                     | 1                    |      |         |        |       |       |        |     |      |                     | 0     | 04     | 4     | **     |
| 6. A |      | HOD OF SUPPORT                              | 7. PROC              | DUCT | MANAGE  | A      |       | 3.    | 1      | N   | 0.   | S. PROJECTED RETURN |       |        |       |        |
| 30   |      | 24 28 26                                    | A Transfer of the NA |      |         |        |       |       |        | ~   | 0    | 0.                  | *     | YR     |       |        |
| 9.0  | ATE  | PULLED 10 DATE PUBLISHED                    | TI. ACTI             | ON T | ntal f  | ~Tn    | 1 for | No    | n- 11  | co  | DE   | 12.                 | JUTO  | OIN    | 901   | TE     |
| 12   | 10   | 193   | crapa                |      |         |        |       | o d   | 1      |     |      | -                   | 0     | 0      | 4     | 78     |
| 0    | E.W  | REVIEW TYPE                                 | REVIEW               |      | SIGN    | ATURE  | OFB   | EVIEV | VER    |     | M-   | DA                  | TE RE | EVIEV  | v cox | MPLETE |
| SEC  | TYPE |   | (Initials            | 100  |         | -10116 |       |       |        | CO  | NT   | м                   | 0     | 0.4    | 4     | YR     |
|      | A    | REVIEWABILITY TEAM                          | 11                   |      | -       |        |       | 1     |        |     | di . |                     |       | - 1    |       | 1      |
|      | В    | PRODUCT MANAGER TEAM<br>EFFICACY REVIEW     | 11                   |      | 3       |        |       |       |        | E S |      |                     |       | - 1    |       |        |
|      | С    | PRODUCT MANAGER TEAM<br>HUMAN SAFETY REVIEW |                      |      | -62 5   | 7      |       |       | Te an  | -   |      |                     |       | 1      |       | 1      |
|      | D    | PRODUCT MANAGER TEAM EN-                    | 1-1                  |      |         |        | 1     |       | 8      |     | 6- 1 |                     | SI    |        |       | la la  |
| P.C. | E    | PRODUCT MANAGER TEAM RESUMBLIZEN REVIEW     | 11                   | 3    |         |        |       |       |        |     |      |                     |       |        | 6.    | 1      |
|      | F    | PRODUCT MANAGER                             | LL                   |      |         |        |       | 3     | Kil    | NE  | 10   | 1                   | 2     | 0      | 6     | 9/3    |
|      | G    | INTERAGENCY REFERRAL                        | 11                   |      | 47      | - 113  | 4     |       | 773    |     |      |                     |       |        | 1     |        |
|      | н    | COST-BENEFIT REVIEW                         | 1 1                  |      | 10      |        | 4     |       | - 4    |     | 1    | -                   |       | Time . | - Jue | 19     |
|      | 1    | PUBLIC COMMENTS REVIEW                      | 11                   |      | 130     |        |       | 2     |        |     |      |                     |       | 1      |       |        |
|      | 1    | EEE BRANCH INSECTICIDE                      | 11                   |      |         |        |       |       | 4      |     |      |                     |       | T.     |       |        |
| 1    | K    | EEE BRANCH HERBICIDE                        | 11                   |      | 1.5     |        |       | 1     |        |     |      |                     |       |        |       |        |
| 19   | L    | EEE BRANCH FUNGICIDE                        | 1-1                  |      | 1/5     |        | N     | W.    | 1 ST   |     |      | E                   |       | -      |       |        |
|      | м    | EEE BRANCH RODENTICIDE                      | 11                   |      |         |        |       | 1     |        |     |      |                     |       |        |       | I      |
|      | N    | EEE BRANCH DISINFECTANT                     | 11                   |      |         |        |       |       |        |     |      |                     | L     | 10     |       |        |
| 1    | 0    | CHEMISTRY BRANCH<br>RESIDUE CHEMISTRY       | 1-1                  |      |         | Q.     |       |       |        |     |      |                     | 1     | Tu:    |       | 1      |
| 1    | P    | EEE BRANCH ENVIRON -<br>MENTAL CHEMISTRY    | 11                   |      | À I     |        |       | , A   |        |     |      | BRE                 |       | 3      | L     | 1      |
| 1    | a    | TOXICOLOGY BRANCH                           | 11                   |      | 4       | 1      |       |       |        |     | 4    |                     | 18    |        |       | 1      |
| 1    |      | EEE BRANCH ENVIRON-<br>MENTAL SAFETY        | 11                   | -    |         |        |       | 1     |        |     | ×    | 1                   | 1     | 1      | 1     |        |
| 1    | s    | 3   | 1.1                  |      | 1 2     |        |       |       |        |     |      | -                   | 1     |        | 1     | 1      |
| 1    | r    |   | 11                   |      |         | S      | 7     | 4     | 1.3    |     | Ž.   |                     | 1     | -      | 1     | 1      |
| 00   | UCT  | MANAGER SIGNATURE                           |                      | 1    | TYPE OF | RESPO  | HSE   |       | 118    |     | 1    | 110                 |       |        |       | CODE   |

EPA Form 6570-13 (3-75)

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

September 22, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup<sup>®</sup> Herbicide (EPA Reg. No. 524-445)

Submission of Supplemental Label (Tank Mixture of Roundup Herbicide with various products for use in non-crop areas).

Dear Sir:

Roundup Herbicide (EPA Reg. No. 524-445) is approved by the Agency for use in various noncrop areas including railroad rights-of-way, utility substations, airports, industrial plants, roadsides, storage areas & similar sites.

Monsanto at this time is submitting a supplemental label that compiles together all the products that may be tank mixed with Roundup Herbicide for use in these noncrop areas. Since these other products are registered for the indicated uses, no additional data or information is needed to support this supplemental registration.

Monsanto requests Agency approval of the enclosed supplemental label for Roundup. Attached are five (5) copies of the label for your approval together with a signed EPA Application for Pesticide Amendment Form 8570-1. If you have any questions regarding this submission, please contact Dr. Russell Schneider at our Washington office or me at 314-694-2124.

> Sincerely. And de

Lydia A. Suba

Registration Manager

EPA Form 8570-1 (Rev. 12-90) Previous editions are obsolete.

White -

Applicant copy

20

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

Confidential Statement of Formula (EPA Form 8570-4);
 Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted;

6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

<u>SECTION I</u> - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach

a separate page if additional space is needed.

SECTION ILL (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
 Type of Retail Container - Indicate type of container in which product will be marketed.
 Location of Net Contents - Specify the net contents of all retail containers for your product.
 Size(s) of Retail Container - Specify the net contents of all retail containers for your product.

Location of Use Directions - Indicate the location of the use directions for your product.
 Manner in which label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IN (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory. 6. EPA Use•Only•

DEC - 9 1993

Dr. Shelia A. Schuette Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Revised Confidential Statement of Formula)
EPA Registration No. 5244-445
Your Application Dated October 8, 1993

The scientific review and evaluation of the revised confidential statement of formula have been completed. The requested CSF is acceptable and our records have been modified accordingly.

Sincerely,

Robert J. Taylor

Product Manager 25

Fungicide-Herbicide Branch
Registration Division (H7505C)

| CII           | BMISSION REVIEW RECORD                                | 1.         | REGISTRATION NU | 1         | CYCLE   |         | ATE AECE | CEAL   |
|---------------|---|------------|-----------------|-----------|---------|---------|----------|--------|
|               | G   | 1 5        | 24-             | 445       |         | 110     | 113      | 910    |
| 3. 10:        | D PUBLICATION NECESSARY                               | 4. PETITIO | N NO.           | -         | 1.3     | S. REC  | EIVED PY |        |
|               | YES   | A. alice   |                 |           |         | MG      | OAY      | YR     |
| 6. ME         | THOO OF SUPPORT                                       | 7. PRODUC  | TMANAGER        | 17.       | No.     | S. PRO. | ECTED A  | ETURN  |
|               | 24 28 26  |            |                 |           |         | MO      | 074      | YM     |
| 9. DAT        | E PULLED 10 DATE PUBLISHED                            | 11. ACTION |                 |           | CODE    | 12. OUT | GOINGD   | ATE    |
| 12            | 6193  | change     | eun CS F        | 345       |         | МО      | OAY      | YA     |
| . w.,.        |   | REVIEWER   | -7 . Vq.        |           | COM.    | DATE    | EVIEWCO  | MPLETE |
| REVIE<br>TYPE | AEVIEW TYPE   | (Initials) | SIGNATURE O     | FREVIEWER | CODE    | мо      | DAY      | YR     |
| . A           | REVIEWABILITY TEAM                                    | 11         |                 |           | 112     |         | SE.      | 6      |
| В             | PRODUCT MANAGER TEAM<br>EFFICACY REVIEW               |            |                 |           |         | 1       | 1        |        |
| С             | PRODUCT MANAGER TEAM<br>HUMAN SAFETY REVIEW           |            |                 |           |         |         | 1        |        |
| D             | PRODUCT MANAGER TEAM EN-<br>VIRONMENTAL SAFETY REVIEW |            |                 | PA.       |         |         | 91       | 1      |
| E             | PRODUCT MANAGER TEAM<br>RESUBMISSION REVIEW           | 1 1        |                 |           |         |         |          |        |
| F             | PRODUCT MANAGER                                       |            |                 | Uko       | NAC     | 1/2     | 016      | 91     |
| G             | INTERAGENCY REFERRAL                                  | 11         | 1               | E+ 3,     | 1       |         |          |        |
| н             | COST-BENEFIT REVIEW                                   | 11         |                 | . 8       | 15      | al.     | 1        |        |
| 1             | PUBLIC COMMENTS REVIEW                                | 11         |                 | 6 T       | 34      | 19      |          |        |
| J             | EEE BRANCH INSECTICIDE                                | 1 1        |                 |           | III WAY | 2       |          |        |
| K             | EEE BRANCH HERBICIDE                                  | 1-1-       | Mar ver         |           | 1 18    |         |          |        |
| L             | EEE BRANCH FUNGICIDE                                  | 1.1        |                 | 9         | - 5     |         |          |        |
| м             | EEE BRANCH RODENTICIDE                                | 11         |                 |           | W.      |         | 1        |        |
| N             | EEE BRANCH DISINFECTANT<br>EFFICACY                   | 11         |                 |           | · Vi    | 100     | 1        | 1      |
| 0             | CHEMISTRY BRANCH<br>RESIDUE CHEMISTRY                 | 11         |                 | 2         | V. T.   | 1       |          |        |
| ρ             | EEE BRANCH ENVIRON -<br>MENTAL CHEMISTRY              | 11         |                 |           | 1000    | 1       |          | 1      |
| a             | TOXICOLOGY BRANCH                                     | 11         |                 |           |         |         | 1        | -      |
| R             | EEE BRANCH ENVIRON-<br>MENTAL SAPETY                  | 1.1        | 1               |           |         | . 1     |          | 3      |
| s             |   | 1.1        |                 |           | T.      | 1       | 1        |        |
| Т             |   |            |                 | 2         | 138     | 1       |          |        |
| ODUC          | T MANAGER SIGNATURE                                   |            | TYPE OF RESPONS | •         | 1/6     |         |          | CODE   |

EPA Form 8578-13 (2-78)

| Form Approved, OMB No. 2070-0060, A | Approval | expires1 | 1-30-93 |
|-------------------------------------|----------|----------|---------|
|-------------------------------------|----------|----------|---------|

| Pleas | e read l | Instruc | tions | on r | eve |
|-------|----------|---------|-------|------|-----|
| (A)   | 9        | E       | F     | 1    | 1   |
| 1. Co | mpany/F  | roduct  | Num   | ber  |     |

United States Environmental Protection Agency Office of Pesticide Programs (H7505C)

Registration

**OPP Identifier Number** 

| VEL   | Ap   | plication 1          | for Pesticide:   |                     | Other            |                   | 207706                                      |
|---|--|----------------------|--|---------------------|------------------|-------------------|---|
|   | The Section In the   | Se                   | ction I  | 11.11               | ED- GETA         | 753               |   |
| 1. Company/Product Numb   | per 524-445  |                      | 2. EPA Product N   |                     |                  | 3. Pr             | oposed Classification                       |
| THE RESERVE   | 324 443  |                      | Robert J.  | Tayl                | or               |                   |   |
| 4. Company/Product (Nam   | e)   |                      | PM#  |                     |                  | X                 | None Restricted                             |
| Roundup® He   | rbicide  |                      | 25   |                     |                  | 1000              |   |
| 5. Name and Address of A  | pplicant (Include ZIP)   | Code)                | 6. Expedited R   | leview              | . In accordan    | ce with           | FIFRA Section 3(c)(3                        |
|   | mpany<br>reet, N.W., S<br>D.C. 20005   | uite 1100            |  | ct is sir           | milar or identic | cal in co         | mposition and labelin                       |
| Check if this   | s is a new address   |                      | Product Name_  | 44                  |                  | THE RES           |   |
|   |  | Sect                 | tion I I   | YAL.                | 13/5/5           |                   | ESTREET PROPERTY.                           |
| Amendment - Explain   | below  | TIME                 |  |                     | in response to   | SEP IN            | AND THE REPORT OF THE PARTY.                |
| A   |  | The Late             | Agency let   | ter date            | d                | AND DE            | To so the district                          |
| Resubmission in respo   | onse to Agency letter  | dated                | "Me Too" A   | pplicati            | on.              |                   |   |
| Notification - Explain b  | elow.  |                      | Other - exp  | lain bel            | ow.              |                   |   |
| Explanation: Use addition   | and name (a) if any and  | ani (Farancia        | a Lond Spation III   | J- 1897             |                  |                   | The second second                           |
| Motorial This Deadust I   | Aliu Da Danka and Inc  | Section              | on III   |                     | TO SECULLAR      |                   |   |
| <ol> <li>Material This Product I<br/>Child-Resistant Packaging</li> </ol>         | Unit Packaging   |                      | Water Soluble Packaging                                    | AND DES             | 2. Type of C     | ontainer          | PER 12 17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
|   | Yes  |                      |  |                     |                  | Metal             |   |
| Yes*  | La facilità  |                      | Yes  |                     |                  | Plastic           |   |
| X No  | X No   |                      | X No   | M. BELL             |                  | Glass             |   |
| * Certification must be submitted.  | If "Yes,"<br>Unit Package wgt.   | No. per<br>container |  | . per<br>ntainer    |                  | Other (Sp         | pecify)                                     |
| 3. Location of Net Contents   | Information  | 4. Size(s) of        | Retail Container   | 5.                  | Location of Lab  | el Directi        | ons   |
| Label X   | Container  | variou               | is   | 3                   | On Label         | a accom           | panying product                             |
| 6. Manner In Which Label I  | THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I | Lithog               | raph X Ot  | hor / 3             | vinyl glue       | -                 | partyring product                           |
|   |  | Paper<br>Stenci      | glued  | ilei (              | Tilly L Bros     | To me             | AND THE RESIDENCE                           |
| 29° T   | TOTAL MARKET   |                      | tion IV  |                     |                  | 10.00             |   |
| 1. Contact Point (Complete  | e items directly below   |                      | n of individual to be contacte                             | d, if ne            | cessary, to pro  | cess this         | application.)                               |
| Name<br>Dr. Russell F   | . Schneider  |                      | Title Agricultural Director                                | Regu                | lation T         | elephone<br>(202) | No. (include Area Code<br>783-2460          |
|   |  | Certification        | n  | 0 1                 | •••              | **:               | 6. Date Application                         |
| I certify that the statemer<br>I acknowledge that any<br>both under applicable la | knowingly false or mis   | is form and all a    | ttachments thereto are true,<br>ent may be punishable by f | accura<br>ine or in | ite and complet  |                   | Received<br>(Stamped)                       |
| 2. Signature  |  | 3                    | 3. Title   |                     | •••              |                   | :   |
| 1   | afchul   | 10                   | Registration M   | anag                | er               |                   |   |
| 1. Typed Name   | (  |                      | i. Date  | 7.5                 |                  | MI I              |   |
| Sheila A. S   | Schuette, Ph.1   | D.                   | Oct. 7,  | 199                 | 3                |                   | 24  |

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS



PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:
1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted;

6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

 Company/Product Number - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.

2. EPA Product Manager - If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing

address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.
 Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief

explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in commection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.

 Type of Retail Container - Indicate type of container in which product will be marketed.

- 3. Location of Net Contents Specify the net contents of all retail containers for your product.

4. Size(s) of Retail Container - Specify the net contents of all retail containers for your product.

5. Location of Use Directions - Indicate the location of the use directions for your product.

6. Manner in thick label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV. (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. 1-5. Self-explanatory.

6. EPA Use Dnly. .

\*Inert ingredient information may be entitled to confidential treatment

## Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

October 7, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup® Herbicide (EPA Reg. No. 524-445)

Submission of Revised Confidential Statement of Formula

Dear Sir:

Monsanto is submitting a revised Confidential Statement of Formula (CSF) for Roundup Herbicide (EPA Reg. No. 524-445). The original CSF for this product was submitted to the Agency in September, 1990 (MRID 41642300) and was approved on February 1, 1991. The revised CSF we are now submitting has been updated to include current suppliers, to present components in a more consistent manner, and to comply with PR Notice 91-2.

Specifically, the following changes have been made:

- The addition of as a supplier. The Agency was previously notified of this new supplier in a letter dated July 16, 1991.
- We have made minor adjustments to the certified limits to ensure that the label value of 41.0% will be the nominal value, as specified in PR Notice 91-2.
- The has been deleted. This ingredient is a contained in the CSF for the 62% salt solution (EPA Reg. No. 524-333) and a separate listing here is redundant.

\*Product ingredient source information may be entitled to confidential treatment\*

Once approved, this revised CSF will supersede all previous versions of the CSF for all brand names under this registration.

If you have any questions regarding this submission, please contact Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Registration Manager

(314) 694-7248

cc: R.P. Schneider

DEC - 9 1993

Dr. Sheila A. Schuette Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Use of Hooded Sprayers In Sugarcane)
EPA Registration No. 524-445
Your Application Dated November 8, 1993

This acknowledges receipt of your application dated November 8, 1993 transmitting a request to use hooded sprayers in sugarcane. This request has been routed to the proper discipline for comment. Further action will await completion of scientific review and evaluation.

Sincerely,

Robert J. Taylor Product Manager 25 Fungicide-Herbicide Branch Registration Division (H7505C)

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

November 8, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup® Herbicide (EPA Reg. No. 524-445)

Supplemental Label for Use with Hooded Sprayers in Sugarcane

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup® herbicide for use with hooded sprayers in sugarcane. Monsanto believes that the proposed label is supported by the data contained in MRID 00108140, which provides residue data for spot treatments in sugarcane. Mr. Robert S. Quick of EPA concurred that the existing data would likely support this proposed new use at a meeting on July 28, 1993. Our rationale is discussed in detail below.

### Spot Treatment Use in Sugarcane

In June, 1976, Monsanto submitted residue and metabolism data for use of glyphosate in sugarcane (MRID 00108140; PP 6G1826). The residue report contained data for both preplant and spot treatment uses. The spot treatment was applied as a postemergent, directed broadcast treatment -- an "interline" treatment. Glyphosate was applied at 3 and 6 lb a.e./A (equivalent to 8 qt/A of Roundup) as a directed spray to six-month old sugarcane. Applications were made by hand knapsack, just prior to close-in. Sprays were directed near ground level between crop rows to avoid most of the foliage. Maximum glyphosate residues were 0.09 ppm from the 6 lb a.e./A treatment, six months after

treatment. Based on these data, EPA established a tolerance of 0.1 ppm for glyphosate and its major metabolite AMPA on sugarcane on March 23, 1979 (44 FR 17675).

### Hooded Sprayers

Hooded sprayers are a recent innovation in shielded sprayer technology that have been commercially available for only the past few years. Unlike traditional shielded sprayers, these hooded sprayers are completely enclosed on all four sides and the top. They are mounted on the tractor such that the bottom of the hood is in very close contact with the ground, and herbicide applications are made to the ground between the crop rows. The spray nozzles for applying the herbicide are located on the inside of the hood, so that only the weeds in between the crop rows are contacted with the spray; the crop itself is extremely well shielded from the herbicide.

### Proposed Use of Hooded Sprayers in Sugarcane

Monsanto is submitting the enclosed label for use of Roundup herbicide with hooded sprayers in sugarcane. The design of the hooded sprayers will result in even less contact of the herbicide spray with the sugarcane than the approved interline spot treatment use. We believe, therefore, that the treated sugarcane will not contain significant glyphosate residues and that the current 0.1 ppm tolerance will not be exceeded.

Monsanto requests that the Agency approve and stamp the enclosed supplemental label. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed. If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D.

Manager, Regulatory Affairs

Shiela a. Schuette

(314) 694-7248

cc: R.P. Schneider L.L. Gingerich DEC - 9 1993

Dr. Sheila A. Schuette Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Aerial Application in Fresno County, California) EPA Registration No. 524-445 Your Application Dated November 22, 1993

The labeling submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. Please submit five (5) copies of your final printed labeling before you release the product for shipment.

Note that this labeling does not bear the required Worker Protection statments as outlined in PR Notices 93-7 and 93-11. We note that you have submitted labels in accordance with the instructions in those Notices. The new protective language in those submissions must be melded into this label for any shipments released after the deadlines that have been established. You may opt to do so immediately if you are electing the self-verification option, or after acceptance by the special Agency Worker Protection Standard review group. Finshed printed labels should be submitted after acceptance by the WPS group and in accordance with their instructions.

Sincerely,

Robert J. Taylor
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

## SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE AND THE "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" SUPPLEMENTAL LABEL BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" supplemental label, and this supplement.

## **ROUNDUP®**

Herbicide by Monsanto

(EPA Reg. No. 524-445)

# FOR AERIAL APPLICATION IN FRESNO COUNTY, CA ONLY From February 15, through March 31 only.

For aerial application outside these dates, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" statewide supplemental label.

Keep out of reach of children.

## WARNING! AVISO!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup® is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the rouser at the time of the herbicide application.

The comments in the comments in

DEC - 9 1993

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.

524-445

See the "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for essential product information.

See the "CROPPING SYSTEMS" section of the label booklet for specific recommendations on the use of this product.

#### Applicable Area

This supplement only applies to the area contained inside the following boundaries within Fresno County, California only.

North: Fresno County line South: Fresno County line East: State Highway 99 West: Fresno County line

#### General Information

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of Roundup herbicide. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor, and aerial applicator.

Written Recommendations

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24-hours prior to the application. This written recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's applicable product label(s) and this label have been satisfied.

Aerial Applicator Training and Equipment Aerial application of Roundup herbicide is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight, and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved "fly-ins" constitutes such documentation, or other written' records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural: Commissioner.

Application at night - Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of Roundup herbicide call 1-800-ROUNDUP

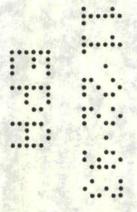
For additional information on the proper aerial application of Roundup herbicide call 916/784-1718.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label for Roundup herbicide before using this product. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

MAP-

©MONSANTO COMPANY 1994

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167



|      | 2110 | MISSION REVIEW RECORD                       | 1.         | REGISTRATION NUMBER                    | CYCLE |         | TE RECE | CIVED  |
|------|------|---|------------|--|-------|---------|---------|--------|
|      | *    | G   | 183        | 24- 445                                | 1 3   | 111     | 2 12    | 9 10   |
| 3.   | 301  | D PUBLICATION NECESSARY                     | 4. PETITIO | N NO.                                  | W. 11 | S. REC  | EIVED P |        |
|      |      | YES   NO                                    | - Ply      | 327                                    |       | I MO    | OAY     | 79     |
| 5.   | _    | HOO OF SUPPORT                              | 7. PRODU   | TMANAGER                               | No.   |         | ECTEO P | ETURN  |
|      |      | 24 20 20                                    |            |  |       | MO      | 044     | 7,4    |
|      | -    | PULLED 10 DATE PUBLISHED                    | 11. ACTION | appl for Fremo Co, CA                  | CODE  | 12. OUT | GOING   | ATE    |
|      | 121  | 693   |            | 300                                    | 1     | 40      | 044     | YR     |
|      | F. W | . REVIEW TYPE                               | REVIEWER   | SIGNATURE OF REVIEWER                  | сом.  | DATER   | EVIEWC  | MPLETE |
| SEQ. | TYPE | - ALVIEW LIFE                               | (Initials) | SIGNATURE OF REVIEWER                  | CODE  | ма      | OAY     | YR     |
|      | А    | REVIEWABILITY TEAM                          | 11         |  |       |         |         | 1      |
|      | В    | PRODUCT MANAGER TEAM<br>EFFICACY REVIEW     | 11         |  | 3     |         | No.     | -      |
|      | С    | PRODUCT MANAGER TEAM<br>HUMAN SAFETY REVIEW |            |  |       |         |         |        |
|      | D    | PRODUCT MANAGER TEAM EN-                    |            |  |       | 31      |         |        |
| 1    | Ε    | PRODUCT MANAGER TEAM RESUBMISSION REVIEW    |            |  |       | 91      |         | 1      |
| 1    | F    | PRODUCT MANAGER                             |            | Ula                                    | NAC   | 1/2     | 016     | 91.    |
| -    | G    | INTERAGENCY REFERRAL                        | IL         | *                                      | 100   | 31      |         |        |
| 1    | н    | COST-BENEFIT REVIEW                         | IL         |  |       |         |         |        |
| -    | 1    | PUBLIC COMMENTS REVIEW                      | 11         |  |       |         |         |        |
| 1    | 1    | EFFICACY                                    | 41         |  |       | -1      | 1       |        |
| -    | K    | EFFICACY HERBICIDE                          | 11         |  | 18    | E L     | 1       |        |
|      | L    | EFFICACY                                    | 13         |  | 7.    | 1       | 1       | 1      |
|      | М    | EEE BRANCH ROOENTICIDE                      | 11         |  | -     | 1       |         |        |
|      | N    | EFE BRANCH DISINFECTANT                     | 11         |  | N.    | 12      |         | 1      |
|      | 0    | CHEMISTRY BRANCH<br>RESIDUE CHEMISTRY       |            |  |       | 41      | 1       | 1      |
|      | Р    | EEE BRANCH ENVIRON -<br>MENTAL CHEMISTRY    |            | A PE                                   | · in  | 1       | 1       | 1      |
|      | a    | TOXICOLOGY BRANCH                           | 1.1        | 11 11 11 11 11 11 11 11 11 11 11 11 11 | 3     | 1       | 1       |        |
|      | R    | EEE BRANCH ENVIRON-<br>MENTAL SAFETY        | 1412       |  | 1     | 1       | 1       |        |
|      | s    | 18  |            | 354                                    | 1 3   | 1       | 1       |        |
|      | Т    |   | 11         |  |       | 1       | 1       | 1      |

EPA Form 8578-13 (3-75)

| (A) SEPA United States Environmental Office of Pesticide Progression, DC Application for   |   | ıms (H7505C)<br>20460   |  | gistratio<br>endme<br>er   | The state of the s |  |  |
|--|---|---|--|--|--|--|--|
|  | Sittle Carrier  | Secti   | on I   | and the latest   | 10000  | Maria Carlos Santa   |  |
| Company/Product Number   |   |   |  | 2. EPA Product Manager   |  | 3. Proposed Classification   |  |
| 524-445  |   | Robert J. Taylor  |  | 25.72  |  |  |  |
| 4. Company/Product (Name)  Roundup® Herbicide  |   |   | PM# 25   |  |  | X None Restricte   |  |
| . Name and Address of Ap   |   | 2 and a l   | 6 Evnadited I  | Pavlau la a  | onardanae  | with FIFRA Section 3(c)(3  |  |
| Monsanto Comp<br>700 14th Stre<br>Washington, I  | pany<br>eet, N.W., Sui  |   | (b)(i), my produ<br>to:<br>EPA Reg. No   |  |  | in composition and labelin   |  |
|  |   |   | Product Name_  |  |  |  |  |
|  |   | Section   | nll  | E HY   | H-WH-  |  |  |
| X Amendment - Explain below  |   |   |  | Final printed labels in response to Agency letter dated                  |  |  |  |
| Resubmission in response to Agency letter dated  |   |   | "Me Too" /   | "Me Too" Application.  |  |  |  |
|  |   |   |  | Other - explain below.   |  |  |  |
| Material This Product V  | VIII Be Packaged In:  | Section   | III  |  | TAIN.  | A CONTRACTOR OF THE PARTY OF TH |  |
| Child-Resistant Packaging  | Unit Packaging  | V   | Vater Soluble Packaging  | 2. T   | ype of Cont  | of Container   |  |
| Yes*   | Yes   | L   | Yes  | By Ha  | Met  |  |  |
| X No X No  |   |   | X No   |  | X Plastic<br>Glass   |  |  |
|  | If "Yes,"   | No. per If  | 10000  | o. per   | Pap  |  |  |
|  | Unit Package wgt.   | 50 P. P. C.   |  | ontainer   | Oth  | er (Specify)   |  |
|  | HART TO THE   | A SALTINA   | ackage wgt. co   | N 100 00 10  |  |  |  |
| submitted.   | Information   | 4. Size(s) of Ret   | 45/10/10/19 [72.5]   |  | n of Label [   | Directions   |  |
| submitted.  3. Location of Net Contents  | THE R. P. LEWIS CO., LANSING, MICH.   | 4. Size(s) of Ret   | ail Container  | X On   | Label  |  |  |
| submitted.  B. Location of Net Contents  Label X C   | ontainer  | variou<br>Lithograpi<br>Paper glu   | ail Container  | X On<br>X On   | Label  | ccompanying product  |  |
| submitted.  B. Location of Net Contents  Label X C   | ontainer  | Variou Lithograph Paper glu Stenciled   | ail Container  1s  h ed  | X On<br>X On   | Labeling a   | ccompanying product  |  |
| B. Location of Net Contents  Label X C  Manner In Which Label Is   | container<br>s Affixed To Product   | Lithograph Paper glu Stendled Sectio  | ail Container  1s  h  x  o   | ther ( viny  | Label<br>Labeling a<br>y1 glue   | ccompanying product  |  |
| submitted.  B. Location of Net Contents  Label X C  Manner In Which Label Is  Contact Point (Complete  | container<br>s Affixed To Product<br>e items directly below   | Lithograpi Paper glu Stenciled Section for identification of  | ail Container  1s  h  x  o   | ther ( viny  | Label Labeling a y1 glue y, to process   | ccompanying product  |  |
| submitted.  Location of Net Contents  Label X C  Manner In Which Label Is  Contact Point (Complete   | container s Affixed To Product e items directly below  Schneider ets I have made on this knowingly false or mis | Lithograph Paper glu Stenciled Section for identification of Title Certification and all attacks                                | ail Container ais  h ed  x O  n IV  Individual to be contact  Agricultural E  Director   | ther ( viny ed, if necessary Regulation                                  | Label Labeling a y1 g1ue  y, to process  Tele (2  complete imentor   | ss this application.) phone No. (Include Area Co. 02.) 783–2460  6. Date Application Received (Stamped)  |  |
| Label X C  Label X C  Manner In Which Label Is  Contact Point (Complete Name  Dr. Russell P  I certify that the statemen I acknowledge that any k both under applicable law  Signature | container s Affixed To Product e items directly below  Schneider ets I have made on this knowingly false or mis | Lithograph Paper glu Stenciled  Section for identification of Title  Certification stendard all attack sleading statement  3. T | ail Container as h ed  x O  n IV individual to be contact Agricultural I Director  chments thereto are true may be punishable by | ther ( viny ed, if necessary Regulation e, accurate and fine or imprisor | Label Labeling a y1 glue  y, to process  Tele (2  complete.  | ss this application.) phone No. (Include Area Coo 02) 783–2460  6. Date Application Received (Stamped)   |  |

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining-the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4); 3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted; 6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections 1, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

 Company/Product Number - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.

2. EPA Product Manager - If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include

any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be

similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.
 Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief

explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.

Type of Retail Container - Indicate type of container in which product will be marketed.
 Location of Net Contents - Specify the net contents of all retail containers for your product.
 Size(s) of Retail Confainer - Specify the net contents of all retail containers for your product.

5. Location of Use Directions - Indicate the location of the use directions for your product.
6. Manner in which label is affixed to product - Indicate the method product label is attached to retail container.

820 22 199

SECTION IV. (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory. 6. EPA Use Omly.



#### United States Environmental Protection Agency Washington, DC 20460

**EPA** Certification with Respect to Citation of Data

Form Approved OMB No. 2070-0060 Approval Expires 11-30-93

| plicants Name and Address   | EPA File Symbol/Registration Number 524-445   |
|---|---|
| Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005   | Product Name Roundup® Herbicide   |
| washington, 2.0. 20009  | Date of Application November 22, 1993   |
| NOTE: If your product is a 100% repackaging is labeled for the same uses, you do not need to su Exemption Statement (EPA Form 8570-27).   | of another EPA-registered product that you purchase, and ubmit this form. You must submit the Formulator's  |
| options are indicated, this application is suppor<br>properties or effects of this product that is ide<br>of data that would be required to be submitted<br>product of identical or similar composition and   | tted or cited in the application. In addition, if cite-all ted by all data in the Agency's files that concern the ntical or substantially similar, and that is one of the types if this application sought the initial registration of a intended uses under the data requirements in effect on k the appropriate boxes, in items 2 and 3 below, that |
| <ol><li>I certify that, for each study cited in support of<br/>study,</li></ol>   | this application for registration that is an exclusive use  |
| x  I am the original submitter*; or   |   |
| I have obtained the written permission of t   | the original data submitter to cite that study*   |
| 3. I certify that, for each study cited in support of study:  | this application for registration that is not an exclusive use  |
| a.  x  I am the original data submitter*; or  |   |
| I have obtained the written permission  | of the original data submitter to cite that study*; or  |
| application and have offered to: (a) Pay 3(c)(1)(D) and 3(c)(2)(D) of the Federa and (b) Commence negotiations to determine the second | s that have submitted data I have cited to support this y compensation for those data in accordance with section al Insecticide, Fungicide and Rodenticide Act (FIFRA); rmine which data are subject to the compensation and terms of compensation due, if any. The companies I   |
|   | le Data Submitters List for all active ingredients contained<br>te-all option under Selective Method*). (Also, sign the   |

cite-all method.) Name and Title Sheila A. Schuette, Ph.D. Date Manager, Regulatory Affairs General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.

\* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the

| | Those companies that have submitted the studies which I have cited (Selective method\*).

Name and Title Date Signature

## Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to 1.0 hours per response, including time for reviewing instructions, certifying the existence of the appropriate data, and completing and mailing this form. Send comments regarding the burden estimate or any other aspect of this certification process including suggestions for reducing the burden to:

to do not describe a superior made and reduce the form the describe and militar or describe to to be bound that are a superior of the doctor o

the entire time for a study steel in support of the application for registration in a fat and ordered the

to the state of the attack of the state of t

application and have offered to; (a) Tay competition for those data in accordance will sekle

There companies that have guidelted the abudies willed have aid to do not made

ust (t) Conversed a golfations to due unite which data are sabled to the laterty which is sent secure of the first and the amount on transfer competitions due, it are. The designable of

All companies lesses on the Post side Lata Summittees him for all active imperitoring minimed

Exemption Statement (alle Form 8570 21)

Chief, Information Policy Branch, PM-223
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

and to

Office of Management and Budget
Paperwork Reduction Project (2070-0060)
Washington, DC 20503

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

November 22, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention: Mr

Mr. Robert J. Taylor Product Manager (25)

Subject:

Roundup® Herbicide (EPA Reg. No. 524-445)

Supplemental Label for Aerial Application in Fresno County, CA

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup herbicide (EPA Reg. No. 524-445). This supplemental label, which has been requested by the state of California, provides detailed instructions for aerial application of Roundup in Fresno County, CA from February 15 through March 31. The label requires that a written recommendation must be submitted to the Fresno County Agricultural Commissioner 24 hours prior to any aerial application. Aerial application is also limited to pilots who have successfully completed an approved training program and all aircraft must be inspected, critiqued in flight, and certified.

An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed. Monsanto requests that the Agency approve this supplemental label as soon as possible. Approval before the end of this year would allow adequate time to get the label printed and distributed to all of the aerial applicators in Fresno County before the use season begins.

If you have any questions regarding this submission, please contact Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

(314) 694-7248

cc: R.P. Schneider L.L. Gingerich S.A. Adams

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

July 30, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup® Herbicide (EPA Reg. No. 524-445)

**Submission of Final Printed Labels:** 

Supplemental Label for Wiper Applications in Wheat

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows wiper applications in wheat to control common rye, was approved by the Agency on June 17, 1993.

Enclosed are five (5) copies of the label (version MAP-3538-7/16/93).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Registration Manager

Shula a. Schuette

(314) 694-7248

cc: R.P. Schneider

Yellow - Applicant copy

| Please read instructions on reverse before   |   |  | Million on the second second   | proved. OMB        | No. 2070-006             | <ol><li>Approval expires 11-30-93</li></ol>  |
|--|---|--|--|--------------------|--------------------------|--|
| SEDA Office  | tates Environment<br>be of Pesticide Pro<br>Washington, I<br>pplication | ograms (H7505)<br>DC 20460             | C)   |                    | stration<br>ndment<br>er | OPP Identifier Number 190605   |
|  | Se  | ection I                               | A CONTRACTOR   | Bart Salas         | Tribulation of the       |  |
| Company/Product Number   | THE RESERVE   | AND DESCRIPTION OF THE PERSON NAMED IN | PA Product Ma  | anager             | 3. F                     | Proposed Classification  |
| 524-   | -445  | R                                      | obert J.   | Taylor             |                          |  |
| 4. Company/Product (Name)  Roundup® Herbicide  |   | PM#                                    | 25   |                    | X                        | None Restricted  |
| 5. Name and Address of Applicant (Include ZIII Monsanto Company 700 14th Street, N.W., S Washington, D.C. 2005  Check if this is a new address   |   | (b)(i)<br>to:                          | Reg. No  |                    |                          | h FIFRA Section 3(c)(3) composition and labeling   |
|  |   | N. D. Control                          | uct Name   |                    |                          | Carlotte State Control   |
|  | Sec   | tion I I                               |  |                    |                          |  |
| Amendment - Explain below  |   | X                                      | Final printed<br>Agency lette  | labels in respo    | nse to 6                 | /17/93   |
| Resubmission in response to Agency lette   | er dated  |  |  |                    | WINE P                   |  |
| Notification - Explain below.  |   |  | "Me Too" Ap  |                    |                          |  |
| Material This Product Will Be Packaged I   | Sections  | on III                                 |  | 1000               | YOUR IS                  |  |
| Child-Resistant Packaging Unit Packaging   |   | Water Soluble                          | Packaging  | 2. Typ             | e of Containe            | r and a second   |
| Yes* No XX No  |   | Yes<br>X No                            |  |                    | X Plastic<br>Glass       |  |
| * Certification must be If "Yes," Unit Package wgt   | No. per container   | If "Yes,"<br>Package wgt.              |  | per<br>tainer      | Paper<br>Other (S        | Specify)   |
| submitted. 3. Location of Net Contents Information   | A Sizo(e) of  | Retail Containe                        | 14 5 165   | 5 Location         | of Label Direc           | etions   |
| A DESCRIPTION OF THE PARTY OF T | NO. AND RESERVE SHOWS IN  | arious                                 | THE PARTY  | X On L             | abel                     | SEASON OF THE RESERVE THE  |
| Label XX Container  6. Manner In Which Label Is Affixed To Produc  | t Lithog  | raph<br>glued                          | X Oth  | er ( Vinyl         |                          | mpanying product   |
| No.  |   | tion IV                                |  |                    |                          | Mary State of the  |
| 1. Contact Point (Complete items directly below  |   |  | be contacted   | d, if necessary,   | to process th            | is application.)   |
| Name Dr. Russell P. Schneider  |   | Title Agricul<br>Directo               |  | egulation          |                          | ne No. (Include Area Code)<br>783-2460   |
|  | Certification   | n                                      | The state of the s | THE RESERVE        | Di Pari S                | 6. Date Application  |
| I certify that the statements I have made on<br>I acknowledge that any knowingly false or r<br>both under applicable law.  |   |  |  |                    |                          | Received<br>(Stamped)  |
| 2. Signature   | 18  | 3. Title                               |  | STORY THE          | THE STATE OF             | 100000000000000000000000000000000000000  |
| Shula a Schue  | tte   | Registr                                | ation Ma   | mager              | 2705                     | A STATE OF THE STA |
| 4. Typed Name  | 5   | 5. Date                                |  | No. of Street, St. |                          |  |

Sheila A. Schuette, Ph.D.

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

Confidential Statement of Formula (EPA Form 8570-4);
 Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling; 5. Three copies of any data submitted;

6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

<u>SECTION I</u> - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach

a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.

- Indicate the size of the individual packets and number per retail container.

  2. Type of Retail Container Indicate type of container in which product will be marketed.

  3. Location of Net Contents Specify the net contents of all retail containers for your product.
- Size(s) of Retail Container Specify the net contents of all retail containers for your product.
   Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products fegistration, resubmission, "me-too," reregistration, etc. 1-5. Self-explanatory.

6. EPA Use Only.

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and

this supplement.



MOT REVIEWED In Accordance with PR Notice 82-2. Based on Draft Labeling Deted Chiles

EPA Reg. No. 524-445

# WIPER APPLICATIONS FOR COMMON RYE IN WHEAT

# Keep out of reach of children. **WARNING!**

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup is a registered trademark of Monsanto Company.

## **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIR-ABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMA-TION", "MIXING, ADDITIVES and APPLICATION INSTRUC-TIONS" and "SELECTIVE EQUIPMENT" sections of the label booklet for Roundup herbicide for essential product performance information.

#### **RECOMMENDATIONS**

This product controls common rye, or cereal rye, which is growing in wheat. Make applications with a rope wick, sponge, or other wiper applicator.

Do not use roller applications.

Applications may be made after common rye has headed and achieved maximum height growth, when the rye is at least 6 inches above the wheat crop. Repeat applications may be needed to control plants that were not above the wheat at the time of the first application. Make the final application at least 35 days prior to harvest.

Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution.

Applications should be made when common rye plants are actively growing and free from dust or moisture (such as dew).

Do not permit herbicide solution to contact desirable vegetation.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1993

MONSANTO COMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOURI 63167

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

July 15, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup® Herbicide (EPA Reg. No. 524-445)

Submission of Final Printed Labels:

Supplemental Label for Coastal Bermudagrass Pastures

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows applications in coastal Bermudagrass pastures prior to spring growth or immediately after first cutting, was approved by the Agency on May 26, 1993.

Enclosed are five (5) copies of the label (version MAP-3527-6/22/93).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely, Shila a Schuell

Sheila A. Schuette, Ph.D. Registration Manager

(314) 694-7248

cc: R.P. Schneider

| (A) SEP  | Application for  | ams (H7505C)<br>20460<br>Pesticide:  | A  | egistrati<br>mendme<br>ther   |  |
|--|--|--|--|---|--|
|  | Secti  |  |  | AND STATE   | A STREET STREET OF THE   |
| Company/Product Number   | 524-445  | 2. EPA Product   | The state of the s | # 15 M  | 3. Proposed Classification   |
| 4. Company/Product (Name)  |  | Robert J.  | Taylor   | F   | X None Restricted  |
| Roundup Herbicide  |  | 25   |  |   |  |
| 5. Name and Address of Ap<br>Monsanto Cor<br>700 14th St<br>Washington,  | mpany<br>reet, N.W., Suite 1100  |  | luct is simila   |   | e with FIFRA Section 3(c)(3<br>Il in composition and labeling  |
| Check if this  | is a new address   | Product Name   |  |   |  |
|  | Section  |  |  |   |  |
|  | CANCEL SECTION OF THE PROPERTY.  |  | ted labels in r  | pennana ta  | CALL TENTES TO   |
| Amendment - Explain b  | elow   |  | etter dated  | esponse to  | May 26, 1993   |
| Resubmission in respon   | nse to Agency letter dated   | "Me Too"   | Application.   |   |  |
| Notification - Explain be  | alow.  |  | xplain below.  | -   |  |
|  | SERVICE AND A STATE OF THE STAT | Outer - 6  | Apiairi below.   |   |  |
| coastal bermud   | agrass pastures Section  | III  |  |   | label for  |
| Material This Product W  | Section //ill Be Packaged in:  | III<br>Vater Soluble Packagin  |  | Type of Con   |  |
| . Material This Product W  | Section //ill Be Packaged In:  | KIND BURNE   |  | Type of Con   | ntainer  |
| . Material This Product W<br>Child-Resistant Packaging<br>Yes*   | Section //ill Be Packaged In: Unit Packaging Yes   | Vater Soluble Packagin   |  | Type of Con   | ntainer<br>etal<br>astic   |
| . Material This Product W  | Section  /ill Be Packaged in:  Unit Packaging  Yes  X No  If "Yes,"  No. per If  | Vater Soluble Packagin Yes X No  |  | Type of Con  Me X Pla   | ntainer<br>etal<br>asstic<br>ass   |
| . Material This Product With Child-Resistant Packaging Yes* No Certification must be   | Section //III Be Packaged In: Unit Packaging Yes X No  If "Yes," No. per If  | Vater Soluble Packagin Yes X No "Yes,"   | ng 2.  | Type of Con  Me X Pla   | ntainer<br>etal<br>astic   |
| . Material This Product With Child-Resistant Packaging Yes* No Certification must be submitted.  | Section //ill Be Packaged In: Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  No. per Unit Package wgt.  P   | Yes X No "Yes," lackage wgt.   | No. per container  | Type of Con  X Pla  Gla  Gla  Ott   | ntainer etal astic ass per her (Specify)   |
| . Material This Product With Child-Resistant Packaging Yes* X No Certification must be submitted. Location of Net Contents   | Section //III Be Packaged In: Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Vo. per Unit Package wgt.  | Yes X No "Yes," ackage wgt.  | No. per container  5. Loca   | Type of Con  X Pla  X Pla  Pla  Ott  Ation of Label On Label  | ntainer etal astic ass per her (Specify)   |
| . Material This Product With Child-Resistant Packaging Yes* X No Certification must be submitted. Location of Net Contents Label X C   | Section  //ill Be Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer  Affixed To Product  Section  No. per container Package wgt.  Lithograpi Paper glu  Paper glu   | Yes X No "Yes," ackage wgt.  ail Container   | No. per container  | Type of Con  X Pla  X Pla  Pla  Ott  Ation of Label On Label  | ntainer etal astic ass aper her (Specify)  Directions accompanying product   |
| . Material This Product Workild-Resistant Packaging  Yes*  X No  Certification must be submitted.  Location of Net Contents  Label X Contents  Manner In Which Label Is  | Section  //ill Be Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer  Affixed To Product  Section  Section  Section  Section  A Size(s) of Ret Various Lithograp Paper glu Stenciled  Sectio   | Vater Soluble Packagin Yes X No "Yes," lackage wgt.  ail Container IS h ed  N IV   | No. per container  5. Loca  X X Other ( Vi   | Type of Con    X   Me   X   Pla   Gla   Pa   Ott  | ntainer  patal astic ass aper her (Specify)  Directions accompanying product   |
| Child-Resistant Packaging Yes* X No Certification must be submitted. Label X Co. Manner In Which Label Is  | Section  //III Be Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information  4. Size(s) of Ret various Affixed To Product  Lithograp Paper glu Stenciled  Sectio  items directly below for identification of   | Vater Soluble Packagin  Yes  X No  "Yes," ackage wgt.  ail Container as h ed  X  I  I  I  I  I  I  I  I  I  I  I  I  | No. per container  5. Loca  X X Other ( Vi   | Type of Con  Me X Pla Gla Pa Ott  Ation of Label On Label On Labeling a nyl glue  | ntainer  ptal astic ass aper her (Specify)  Directions accompanying product ed  pss this application.)                               |
| No Product Was a Contact Point (Complete 1). Material This Product Was a Contact Point (Complete 2). Manner In Which Label Is 1. Contact Point (Complete 2).   | Section  //ill Be Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer Staffixed To Product Staffixed To Product  Lithograph Paper glu Stenciled Section  Title  | Vater Soluble Packagin  Yes  X No  "Yes," ackage wgt.  ail Container as h ed  X  I  I  I  I  I  I  I  I  I  I  I  I  | No. per container  5. Loca  X Other ( Vi   | Type of Con  X Pla  Gla  Gla  Pa  Ott  Ation of Label  On Labeling a  ny1 glue  sary, to proces  ion Tele   | ntainer  etal astic ass aper her (Specify)  Directions accompanying product ed  )  |
| A. Material This Product Working Product Worki | Section  //III Be Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer  Affixed To Product  Section  Section  Items directly below for identification of the product  P. Schneider  Section  Title   | Yes X No "Yes," ackage wgt. ail Container as h ed x Agricultural   | No. per container  5. Loca  X Other ( Vi   | Type of Con  X Pla  Gla  Gla  Pa  Ott  Ation of Label  On Labeling a  ny1 glue  sary, to proces  ion Tele   | Directions accompanying product ass this application.) ephone No. (Include Area Coc (202) 783–2460                                   |
| Child-Resistant Packaging  Yes*  X No  * Certification must be submitted. 3. Location of Net Contents  Label X Co.  Manner In Which Label Is  1. Contact Point (Complete Name  Dr. Russell 1   | Section  //III Be Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer  Affixed To Product  Section  Title  Certification  ts I have made on this form and all attachowingly false or misleading statement   | Yes X No "Yes," ackage wgt.  ail Container as hed X individual to be contact Agricultural Director   | No. per container  5. Loca  X X Other ( Vi   | Type of Con  Me X Pla Gla Pa Ott  Ation of Label On Labeling a ny1 glue  sary, to proces ion Tele (   | ntainer etal astic ass sper her (Specify)  Directions accompanying product ed )  ess this application.) ephone No. (Include Area Coc |
| 1. Material This Product Workild-Resistant Packaging  Yes*  X No  * Certification must be submitted. 3. Location of Net Contents  Label X Co.  6. Manner In Which Label Is  1. Contact Point (Complete Name  Dr. Russell 1.  I certify that the statement I acknowledge that any key both under applicable law 2. Signature  | Section  Vill Be Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer S Affixed To Product Section  Items directly below for identification of the product of the p | Yes X No  "Yes," ackage wgt.  ail Container as h ed  No  No  "Yes," ackage wgt.  ail Container as h ed  Agricultural Director  chments thereto are true may be punishable by | No. per container  5. Loca  XX  Other ( Vi  cted, if necess  Regulat  ie, accurate and fine or imprise   | Type of Con    Me   | Directions accompanying product ass this application.) apphone No. (Include Area Coc (202) 783–2460  6. Date Application Received    |
| 1. Material This Product W. Child-Resistant Packaging  Yes*  X No  * Certification must be submitted. 3. Location of Net Contents  Label X C. 6. Manner In Which Label Is  1. Contact Point (Complete Name  Dr. Russell 1  I certify that the statement I acknowledge that any k both under applicable law 2. Signature  4. Typed Name   | Section  //ill Be Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer S Affixed To Product Section  Items directly below for identification of the product of the  | Yes X No "Yes," ackage wgt.  ail Container ts hed X individual to be contact Agricultural Director  chments thereto are trumay be punishable by ittle Registrati             | No. per container  5. Loca  XX  Other ( Vi  cted, if necess  Regulat  ie, accurate and fine or imprise   | Type of Con    X   Me   X   Pla   Gla   Pa   Ott   On Label   On Labeling a   ny1   glue   cary, to proces   ion   Tele   cary   complete   comment or   complete   comment or   cary   cary | Directions accompanying product ass this application.) apphone No. (Include Area Cod (202) 783–2460  6. Date Application Received    |

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)]:

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted; 6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections 1, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
  to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

 Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief
explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
  3. Location of New Contents Specify the net contents of all retail containers for your product.

- 4. Size(s) & Retail Container Specify the net contents of all retail containers for your product.

  5. Location of Use Directions Indicate the location of the use directions for your product.

  4. Manner in which label is affixed to product Indicate the method product label is attached to retail container.
- SECTION IV (Contact Point) This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. Self-explanatory.
- EPA Use Only.

# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and

this supplement.



NOT REVIEWED
In Accordance with PR Notice 82-2.
Mased on Draft Labeling Dated

5/26/95

EPA Reg. No. 524-445

FOR THE CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING

Keep out of reach of children.
WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup is a registered trademark of Monsanto Company.

## **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIX-ING, ADDITIVES AND APPLICATION IN-STRUCTIONS" sections of the label booklet for Roundup herbicide for essential product performance information.

#### RECOMMENDATIONS

This product may be applied at 16 ounces per acre to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal bermudagrass pastures.

barley, little Hordeum pusillum

bluegrass, annual Poa annua

cheat

Bromus secalinus

crabgrass Digitaria spp.

henbit Lamium amplexicaule

johnsongrass, seedling Sorghum halepense

mustard, wild Sinapis umbellatum

oats

Arvena sativa

ryegrass, Italian Lolium multiflorum

sandbur, field Cenchru spp.

sunflower

Helianthus annuus

ng wheat

pense Triticum aestivum

#### TIMING OF APPLICATION:

APPLICATIONS PRIOR TO SPRING GROWTH - Apply this product in the late winter or early spring but before new coastal bermudagrass growth begins in the spring. Applications to new growth can damage the bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait 60 days after making this application before grazing or harvesting the treated area.

APPLICATIONS FOLLOWING THE FIRST CUTTING - Apply this product after the first

bermudagrass cutting when the bermudagrass has not yet begun to regrow. Applications made after regrowth has begun can damage the bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait 28 days after making this application before grazing or harvesting the treated area.

NOTE: ONLY ONE APPLICATION PER YEAR MAY BE MADE TO ANY ONE FIELD. A SPRING APPLICATION PRIOR TO GROWTH AND AN APPLICATION FOLLOWING THE FIRST CUTTING MAY NOT BE MADE ON THE SAME FIELD DURING THE SAME YEAR.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

MAP-3527-0/22/98

©Monsanto Company 1993

MONSANTO COMPANY.
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

July 7, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup<sup>®</sup> Herbicide (EPA Reg. No. 524-445)

Submission of Final Printed Labels: Supplemental Label for Tree Nuts

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows applications up to three days prior to harvest of tree nuts, was approved by the Agency on June 17, 1993.

Enclosed are five (5) copies of the label (version MAP-3536-6/29/93).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Registration Manager

Shila a. Schuett

(314) 694-7248

cc: R.P. Schneider

| Section  | (A) SEP  | SEPA  United States Environmental Protection A Office of Pesticide Programs (H75050 Washington, DC 20460 Application for Pestici  |  | ams (H7505C)<br>20460  |  | Ar                     | gistra<br>nendm<br>her           |  | 185081   |
|--|--|---|--|--|--|------------------------|----------------------------------|--|--|
| Section III      | Cad Ligar St. 1, 60  | THE PERSON NAMED IN   | Sect   | ion I  | 0.0078   | - 6                    |                                  | 10.75  |  |
| A Company/Product (Name) Roundup® Herbicide  5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005  Check if this is a new address  Section II  Amendment - Explain below Resubmission in response to Agency letter dated Notification - Explain below.  Explanation: Use additional page(s) if necessary. (For section I and Section II.)  Final printed supplemental Label for tree nuts.  Section III  Material This Product Will Be Packaged in: Child-Resistant Packaging Ves* No No Washington: Use additional page(s) if necessary. (For section I and Section III.)  Section III  1. Material This Product Will Be Packaged in: Child-Resistant Packaging Ves* No No Washington: Unit Packaging Ves* No No Der Unit Package wgt. No. per Ochaliner Various  Section IV  1. Contact Point (Complete items directly below for identification or individual to be contacted, if necessary, to process this application.) Name Dr. Russell P. Schneider  Certification Director  Certifica | Company/Product Number   | er 524-445  |  | THE RESERVE OF THE PARTY OF THE | No. of Concession, Name of Street, or other Princers of Street, or other P | 4.50                   |                                  | 3. Pr  | roposed Classification   |
| Section III  |  |   |  | ert J. Ta  | ylor   |                        | V                                | None Restricts   |  |
| Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005  Check if this is a new address  Section II  Amendment - Explain below Resubmission in response to Agency letter dated Notification - Explain below.  Explanation: Use additional page(s) if necessary. (For section I and Section II.)  Final printed supplemental label for tree nuts.  Section III  1. Material This Product Will Be Packaging Yes X No  II Yes, Yes X No  Unit Packaging Yes X No  Unit Packaging Yes X No  Product Name  Section III  1. Material This Product Will Be Packaged In:  Child-Resistant Packaging Yes X No  II Yes, Yes X No  Other (Specify) Other (Specify) Section II  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Telephone No. (Include Area Coc Certification Director  Certification  Title Agricultural Regulation Director  Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  2. Signature  [No.]  (A)  (A)  (A)  (B)  (A)  (B)  (A)  (B)  (B  |  | Section of the second   |  | FIVIE NAME   | 25   |                        |                                  | A  | The The strict   |
| Section III  Amendment - Explain below  Resubmission in response to Agency letter dated  Notification - Explain below.  Explanation: Use additional page(s) if necessary. (For section I and Section III.)  Final printed supplemental label for tree nuts.  Section III  Material This Product Will Be Packaged In:  Child-Resistant Packaging  Yes  No  II Yes, No  III Yes, No  III Yes, No  III Yes, No  III Package wgt Container  Package wgt Container  Various  Label  Container  Various  Section IV  1. Contact Point (Complete Items directly below for identification of Individual to be contacted, if necessary, to process this application.  Tiefe Agricultural Regulation  Packaged)  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  Signature  Signature  Signature  Tiefe Agricultural Regulation Final printed labels in response to 6/17/93  Metal Metal Y Plastic X Paper Container X On Label Directions Contact Point (Label Interest in | Monsanto Co<br>700 14th St<br>Washington,  | mpany<br>reet, N.W., S<br>D.C. 20005  |  | (b)(i), m<br>to:   | eg. No   |                        |                                  |  |  |
| Amendment - Explain below Resubmission in response to Agency letter dated Notification - Explain below.  Explanation: Use additional page(s) if necessary. (For section I and Section II.)  Final printed supplemental label for tree nuts.  Section III  I. Material This Product Will Be Packaged In:  Child-Resistant Packaging  Yes  No  If Yes  No  If Yes  No  If Yes  Unit Package wgt Octation of Net Contents Information Label Sociation Soc |  | The state of the  | Section  |  | Tvaine   | 9 7                    |                                  |  |  |
| Resubmission in response to Agency letter dated  | Amandmant Funktion   | oolow   | Decilo   | Fi   | nal printed lab  | els in re              | sponse to                        | 1000   | A STATE OF THE STA |
| Notification - Explain below.  Explanation: Use additional page(s) if necessary. (For section I and Section II.)  Final printed supplemental Label for tree nuts.  Section III  1. Material This Product Will Be Packaged in:  Child-Resistant Packaging  Yes  Yes  No  II 'Yes,' No  II 'Yes,' No  II 'Yes,' No. per Other (Specify)  A Size(s) of Retail Container  Various  Section IV  1. Contact Point (Complete items directly below for identification of Individual to be contacted, if necessary, to process this application.)  Title  Agricultural Regulation  Director  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I careful that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I certify that the statements I have made on this form and all  |  |   |  |  |  |                        |                                  | 6  | /17/93   |
| Section III  | Resubmission in respo  | nse to Agency letter  | dated  |  | Ne Too" Applica  | ation.                 |                                  |  |  |
| Section III  1. Material This Product Will Be Packaged In: Child-Resistant Packaging  Yes  X No  If Yes, Unit Package wgt. Container Submitted. 3. Location of Net Contents Information Label X Container Label X Container  Various  Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Name  Dr. Russell P. Schneider  Certification  Lithey and Director  Certification  Lithey applicable law.  Certification  Lithey applicable law.  Section IV  Certification  Lithey applicable law.  Section IV  Certification  Lithey applicable law.  Section IV  Certification  Lithey application of individual to be contacted, if necessary, to process this application.)  Telephone No. (Include Area Coccondition)  Received  Lithey applicable law.  Certification  Lithey applicable law.  Section IV  Loents the statements I have made on this form and all attachments thereto are true, accurate and complete. Lithey applicable law.  Section IV  Loents the statements I have made on this form and all attachments thereto are true, accurate and complete. Lithey applicable law.  Section IV  Loents the statements I have made on this form and all attachments thereto are true, accurate and complete. Lithey applicable law.  Section IV  Lithey applicable law.  Certification  Lithey applicable law.  Lithey applicable law.  Section IV  Lithey applicable law.  Certification  Lithey applicable law.  Lithey applicable law.  Lithey applicable law.  Section IV  Lithey applicable law.  Lithe | Notification - Explain be  | alow.   |  |  | ther - explain b   | elow.                  |                                  |  |  |
| Certification must be Submitted.  3. Location of Net Contents Information Label Is Affixed To Product Section IV  1. Contact Point (Complete items directly below for identification of Individual to be contacted, if necessary, to process this application.)  Title Agricultural Regulation  Dr. Russell P. Schneider  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  2. Type of Container. Metal Plastic Glass Paper Other (Specify)  Metal Plastic Glass Paper Other (Specify)  Metal X Plastic Glass Paper Other (Specify)  Metal Plastic Glass Paper Other (Specify)  Mothat X Plastic Glass Paper Other (Specify)  Ton Label Directions  School Label Directions  Ton Label Directions  Title Agricultural Regulation  Telephone No. (Include Area Coortification of Individual to be contacted, if necessary, to process this application.)  Telephone No. (Include Area Coortification of Individual to Director (202) 783–2460  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. (202) 783–2460  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. (202) 783–2460  Certification Received  Statement may be punishable by fine or imprisonment or both under applicable law.   | MINISTRA CLAR  |   | Section  | m  |  |                        |                                  |  |  |
| Yes Yes No No No. per Unit Package wgt. No. per Certification must be submitted.  3. Location of Net Contents Information A. Size(s) of Retail Container Various Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Name Trible Agricultural Regulation Director  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  3. Title  Metal Plastic Glass Paper Other (Specify)  Container St. No. per Container VX Other (Specify)  Container Various Stendier Various Information of individual to be contacted, if necessary, to process this application.)  Telephone No. (Include Area Container Various Information of individual to be contacted, if necessary, to process this application.)  Telephone No. (Include Area Container Various Information Various Informati | 1 M - 4 - 1 - 1 Th. I - Ph d 4 14  |   |  | III  | - 19/2   |                        | 7                                |  | Service Services   |
| Certification must be   Submitted.   Submi   |  |   |  | LET'SE E   | ackaging   | 2.                     | Type of Co                       | ontainer   |  |
| Certification must be submitted.  3. Location of Net Contents Information  Label X Container  Container  Container  Various  Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Title  Agricultural Regulation  Director  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  Jacknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  Signature  No. per Ctertification  Section IV  Contact Container  Various  Scipnature  Certification  Agricultural Regulation  Faceived  Certification  Received  Stamped)  Signature  3. Title   | Child-Resistant Packaging  | Unit Packaging  |  | Water Soluble P  | ackaging   | 2.                     |                                  | Metal  |  |
| Certification must be submitted.  3. Location of Net Contents Information  Label X Container  Label X Container  Label X Container  Label S Container  Label S Container  Label S Container  Lithograph Paper glued Stenciled  Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Title  Agricultural Regulation  Dr. Russell P. Schneider  Certification  Lithograph Paper glued Stenciled  Section IV  Certification  Telephone No. (Include Area Container  Certification  Director  Certification  Director  Certification  J Certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  Lithograph Paper glued Stenciled  Section IV  Agricultural Regulation Director  Certification  Received  (Stateped)  Statement may be punishable by fine or imprisonment or both under applicable law.  3. Title  | Child-Resistant Packaging Yes*   | Unit Packaging Yes  |  | Water Soluble P  | ackaging   | 2.                     | X                                | Metal<br>Plastic   |  |
| Label   X Container   Various   S. Location of Label Directions   Various   On Label   X On La   | Child-Resistant Packaging Yes*   | Unit Packaging Yes X No   | V  | Water Soluble P Yes X No   |  |                        | X                                | Metal<br>Plastic<br>Glass<br>Paper   |  |
| Label X Container    Various   X On Label   X On Label   X On Labeling accompanying product   X Other ( vinyl glued   | Child-Resistant Packaging Yes* No  | Unit Packaging Yes X No If "Yes,"   | No. per  | Vater Soluble P Yes X No f "Yes,"  | No. per  |                        | X                                | Metal<br>Plastic<br>Glass<br>Paper   |  |
| Lithograph Paper glued Stenciled  Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Title Agricultural Regulation  Dr. Russell P. Schneider  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  Signature  3. Title  | Yes* No  Certification must be submitted.  | Unit Packaging Yes X No If "Yes," Unit Package wgt.   | No. per container  | Vater Soluble P Yes X No f "Yes," Package wgt.   | No. per containe   | ər                     | X                                | Metal<br>Plastic<br>Glass<br>Paper<br>Other (S)  | pecify)  |
| Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Name  Title Agricultural Regulation Director  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  2. Signature  3. Title   | Yes*  No  * Certification must be submitted.  B. Location of Net Contents  | Unit Packaging Yes X No If "Yes," Unit Package wgt.   | No. per container F  | Vater Soluble P Yes X No f "Yes," Package wgt.   | No. per containe   | er Locati              | X F                              | Metal<br>Plastic<br>Glass<br>Paper<br>Other (Sp  | pecify)ions  |
| Dr. Russell P. Schneider  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  3. Title  Telephone No. (Include Area Coordinates)  (202) 783–2460  6. Date Application Received  (Statemed)  (Statemed)  | Yes*  X No  * Certification must be submitted.  B. Location of Net Contents  Label X C   | Unit Packaging Yes X No If "Yes," Unit Package wgt. Information ontainer  | No. per container F  4. Size(s) of Ret various  Lithograp Paper glu  | Water Soluble P Yes X No f "Yes," Package wgt. tail Container  | No. per containe   | Locati<br>X            | X F                              | Metal<br>Plastic<br>Glass<br>Paper<br>Other (Sp  | pecify)ions  |
| Agricultural Regulation Director  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  Signature  Agricultural Regulation (202) 783–2460  6. Date Application Received (Stamped)   | Child-Resistant Packaging Yes* No Certification must be submitted.  Location of Net Contents Label X C   | Unit Packaging Yes X No If "Yes," Unit Package wgt. Information ontainer  | No. per container F  4. Size(s) of Ret various  Lithograp Paper glus Stenciled   | Water Soluble P Yes X No f "Yes," Package wgt. tail Container  | No. per containe   | Locati<br>X            | X F                              | Metal<br>Plastic<br>Glass<br>Paper<br>Other (Sp  | pecify)ions  |
| I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  Received  (Stamped)  | * Certification must be submitted.  B. Location of Net Contents  Label X C  Manner In Which Label Is   | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer s Affixed To Product  | No. per container F  4. Size(s) of Ret various  Lithograp Paper glustenciled Sections  | Water Soluble P Yes X No f "Yes," Package wgt. tail Container  | No. per containe   | Locati<br>X C<br>X Vir | X F                              | Metal<br>Plastic<br>Glass<br>Paper<br>Other (S)<br>Pl Direction  | pecify)ions panying product  |
|  | Child-Resistant Packaging Yes*  No Certification must be submitted. Location of Net Contents  Label X C Manner In Which Label Is  Contact Point (Complete lame   | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer s Affixed To Product  | No. per container F  4. Size(s) of Revarious  Lithograp Paper glu Stenciled  Section   | Water Soluble P Yes X No f "Yes," Package wgt.  tail Container  the container  Agricult  | No. per contained  Some contacted, if it is a contacted, if it is  | Locati<br>X C<br>X C   | on of Label on Labeling ayl glu  | Metal<br>Plastic<br>Glass<br>Paper<br>Other (Sp<br>el Direction<br>a accommed  | pecify)ions panying product) s application.) e No. (Include Area Cod   |
|  | * Certification must be submitted.  B. Location of Net Contents  Label X C  Manner In Which Label Is  1. Contact Point (Complete Name  Dr. Russell  I certify that the statemen I acknowledge that any k | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer s Affixed To Product  Items directly below P. Schneider  ts I have made on this movingly false or mis | No. per container H  4. Size(s) of Ret various  Lithograp Paper glustenciled Section for identification of Title  Certification some some and all attachments of the section of the sectio | Water Soluble P Yes X No f "Yes," Package wgt.  tail Container  the led I Director  chments thereto  | No. per contained  Some contacted, if I was a Region are true, accurated.  | vin                    | on of Label on Labeling by 1 glu | Metal Plastic Glass Paper Other (S) Plastic Glass Paper Other (S) Plastic Glass Plastic Glastic Glass Plastic Glass Plastic Glass Plastic Glass Plastic Glastic Glass Plastic Glass Plas | pecify)ions panying product  |
|  | Certification must be submitted.  Label X Contact Point (Complete Name  Dr. Russell  I certify that the statemen I acknowledge that any k both under applicable law  Signature                           | Unit Packaging Yes X No If "Yes," Unit Package wgt.  Information ontainer s Affixed To Product  Items directly below P. Schneider  ts I have made on this movingly false or mis | No. per container H. Size(s) of Ret various  Lithograp Paper glus Stenciled Section for identification of Title  Certification steading statement Steading statement 3. The steading statement of the statement  | Vater Soluble P Yes X No f "Yes," Package wgt.  tail Container  the led Director  chments thereto t may be punish  | No. per contained in a contacted, if it is a | vin                    | on of Label on Labeling by 1 glu | Metal Plastic Glass Paper Other (S) Plastic Glass Paper Other (S) Plastic Glass Plastic Glastic Glass Plastic Glass Plastic Glass Plastic Glass Plastic Glastic Glass Plastic Glass Plas | pecify)ions panying product  |

EPA Form 8570-1 (Rev. 12-90)

Previous editions are obsolete.

White - EPA File Copy (origin

51 Yellow - Applicant copy

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4); 3. Formulator's Exemption Statement (EPA Form 8570-27):

4. Five copies of draft labeling;

5. Three copies of any data submitted;

6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be

similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications salamitted in connection with new registration or applicable amendments.

. Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.

... Indicate the size of the individual packets and number per retail container. 2, Type of Retail Container - Indicate type of container in which product will be marketed.

Location of Net Contents - Specify the net contents of all retail containers for your product. 5. Location of Neta Contents - Specify the net contents of all retail containers for your product.

5. Edition of Use Directions - Indicate the location of the use directions for your product.

6. Manner in which label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. 1-5: Self-explanatory. 6. EPA Use Only.

:...

# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and

this supplement.

NOT REVIEWED In Accordance with PR Notice 82-2. Faced on Draft Labeling Dated

6/17/93

Roundure by Monsanto

EPA Reg. No. 524-445

## FOR WEED CONTROL IN NUT CROPS UP TO THREE DAYS PRIOR TO HARVEST

Keep out of reach of children.

# WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup is a registered trademark of Monsanto Company.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This supplemental label and the label booklet for Roundup herbicide must be in the possession of the user at the time of herbicide application.

AVOID CONTACT WITH FOLI-AGE, GREEN STEMS, OR FRUIT OF CROPS, DESIR-ABLE PLANTS AND TREES. SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMA-TION" and "MIXING, ADDI-TIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

#### RECOMMENDATIONS

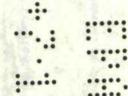
This product is recommended for weed control in established groves of almonds, beechnuts, Brazil nuts, butternuts, cashews, chestnuts, chinquapins, filberts (hazelnuts), hickory nuts, macademia nuts, pecans, black walnuts and English walnuts. Applications can be made with both boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, or orchard guns, or with wiper applicator equipment.

For specific rates of applications and instructions, see the "WEEDS CONTROLLED" and the "TREE AND VINE CROPS" sections of the Roundup label booklet.

Allow a minimum of 3 days between last application and harvest.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

MAP 3536-6/29/93



©Monsanto Company 199

MONSANTO COMPANY AGRICULTURAL PRODUCTS ... ST. LOUIS, MISSOURI 63187 .

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

June 24, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup® Herbicide (EPA Reg. No. 524-445)

**Submission of Final Printed Labels:** 

New Enlarged Label Booklet

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide label booklet for your files. This label is identical in content to the current Roundup label (version 1992-2: 898.07-000.01/53), which was submitted to the Agency on March 10, 1992 and approved April 2, 1992. The only difference is the physical size of the booklet -- the design of our new containers allows the use of these larger booklets and we believe that the customer will find them more convenient to use.

Enclosed are five (5) copies of the label (version 1993-1: 898.07-000.27/53).

If you have any questions, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Registration Manager

Shula Q. Schuette

(314) 694-7248

| (A) SEP  | Office of Pes<br>Was   | nvironmental Prote<br>sticide Programs (I<br>hington, DC 2046<br>ation for Pe  | H7505C)<br>0   | Regist Amend   | A Secretary Commence of the co | OPP Identifier Number  |
|--|--|--|--|--|--|--|
|  | CONTRACTOR AND   | Section I  | e al mari  |  | - 1 - 4  |  |
| Company/Product Numb   | er 524–445   |  | 2. EPA Product Ma  |  | 3. Pro   | oposed Classification  |
| 4. Company/Product (Name   | 9)   |  | PM# 25   | . A  | X  | None Restricted  |
| Roundup® H   | lerbicide  |  | 23   |  |  | 4 6 4 6  |
| Washington   |  |  |  |  |  | FIFRA Section 3(c)(3) mposition and labeling                             |
|  |  | Section I I  |  |  |  | Trick the state of   |
| Amendment - Explain It Resubmission in respo   | nse to Agency letter dated   | Martin exam  | Final printed Agency lette "Me Too" Ap Other - expla   | plication.   | e to   |  |
|  |  | 35 35 S  | Outer - expla  | uii below.   | True,  | 195 9-3  |
|  |  |  |  |  |  |  |
| Material This Product V  |  | Section III  | Schille Badasias   | 12 Type o  | S Container  |  |
| 1. Material This Product V Child-Resistant Packaging Yes*  X No * Certification must be  | Unit Packaging Yes X No If "Yes," No   | Water  | , No.  | x  | f Container  Metal Plastic Glass Paper Other (Spe  | ecify)   |
| Child-Resistant Packaging Yes*  X No * Certification must be submitted.  | Unit Packaging Yes X No  If "Yes," Unit Package wgt.   | Water  X  X  O. per ontainer Package   | Yes No ," No. ge wgt. cont   | per ainer  | Metal Plastic Glass Paper Other (Spo   | 3 3  |
| Child-Resistant Packaging Yes*  X No  * Certification must be submitted. 3. Location of Net Contents   | Unit Packaging Yes X No  If "Yes," Unit Package wgt.   | Water  X  O. per If "Yes.  | Yes No ," No. ge wgt. cont   | per ainer  5. Location of L  | Metal Plastic Glass Paper Other (Spo   | ons  |
| Child-Resistant Packaging Yes*  X No  * Certification must be submitted. 3. Location of Net Contents   | Unit Packaging Yes X No  If "Yes," No Unit Package wgt. co   | o. per ontainer Packago variou Lithograph Paper glued Stenciled  | Yes No ," No. ge wgt. cont ontainer 1S  X Other  | per ainer  5. Location of L  | Metal Plastic Glass Paper Other (Special)  |  |
| Child-Resistant Packaging  Yes*  X No  * Certification must be submitted. 3. Location of Net Contents  Label X C 6. Manner In Which Label Is  1. Contact Point (Complete   | Unit Packaging Yes X No  If "Yes," No Unit Package wgt. co Information 4. Si ontainer S Affixed To Product   | water    X | Ves No ," No. ge wgt. cont ontainer 1S  X Other  | per ainer  5. Location of L  X On Labe X On Labe er ( vinyl gl   | Metal Plastic Glass Paper Other (Sponsor) Abel Direction Bling accomp  | ons panying product  )  application.)                                    |
| Child-Resistant Packaging  Yes*  X No  * Certification must be submitted.  3. Location of Net Contents  Label  Label  X C Manner In Which Label Is   | Unit Packaging Yes X No If "Yes," No Unit Package wgt. co Information 4. Si ontainer S Affixed To Product  | o. per ontainer Packag  ize(s) of Retail Covariou  Lithograph Paper glued Stenciled  Section IV  entification of indivi  | Ves No ," No. ge wgt. cont ontainer 1S  X Other  | per sainer  5. Location of L  X On Labe On Labe or ( vin vl gl   | Metal Plastic Glass Paper Other (Special eling accomplated  Drocess this Telephone   | ons panying product  )  application.)                                    |
| Child-Resistant Packaging  Yes*  X No  * Certification must be submitted. 3. Location of Net Contents  Label X C 6. Manner In Which Label Is  1. Contact Point (Complete Name  Dr. Russell P.  I certify that the statement                            | Unit Packaging Yes X No If "Yes," No Unit Package wgt. Co Information 4. Si ontainer S Affixed To Product  Schneider  Cert Its I have made on this form nowingly false or misleading | Water    X   X   | No. The No. Th | per ainer  5. Location of L  X On Labe X On Labe er ( vinvl gl  diff necessary, to per gulation  | Metal Plastic Glass Paper Other (Sponsor) Abel Direction Comparison Direction Direction Comparison Direction Direction Comparison Direction | application.)  No. (Include Area Code                                    |
| * Certification must be submitted.  3. Location of Net Contents  Label X C 6. Manner In Which Label Is  1. Contact Point (Complete Name  Dr. Russell P.  I certify that the statement I acknowledge that any k both under applicable law  2. Signature | Unit Packaging Yes X No If "Yes," No Unit Package wgt. Co Information 4. Si ontainer S Affixed To Product  Schneider  Cert Its I have made on this form nowingly false or misleading | water    X   X     O. per ontainer   If "Yes Package   | No. The No. Th | per ainer  5. Location of L  X On Labe X On Labe Y On La | Metal Plastic Glass Paper Other (Sponsor) Abel Direction Bling accomputed  Process this Telephone (202)  | application.) No. (Include Area Code 783–2460  Date Application Received |

### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted;

Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
  to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product
  Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be

similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach

a separate page if additional space is needed.

SECTION III. (Packaging and Container Information) - This Section must be completed for all applications submitted in conhection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.

2. Type of Retail Cantainer - Indicate type of container in which product will be marketed.

3. Location of Wet Contents - Specify the net contents of all retail containers for your product.

4. Size(s) of Detail Container - Specify the net contents of all retail containers for your product.
5. Location of Use Directions - Indicate the location of the use directions for your product.

6. Manner in which label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-exptanatory.

6. EPA Use anly

# Roundup. Herbicide by Monsanto

### Complete Directions for Use

EPA Reg. No. 524-445

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

\*Roundup is a registered trademark of Monsanto Cempany.

This product has been approved for use in California except as stated otherwise on page 87

1993-1

898.07-000.27/53

Read each of these sections of this label for essential product performance information.

#### USE THESE CONVENIENT SECTION MARKERS.

TREE AND VINE CROPS

NINIMUM TILLAGE

ROPPING SYSTEMS

ONCROP USES

WEEDS CONTROLLED

MIXING. ADDITIVES AND APPLICATION INSTRUCTION

NERAL INFORMATION

# Roundup. Herbicide by Monsanto police Directions for Use

**Complete Directions for Use** 

EPA Reg. No. 524-445

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

®Roundup is a registered trademark of Monsanto Company.

This product has been approved for use in California except as stated otherwise on page 87

1993-1

898.07-000.27/53

Read each of these sections of this label for essential product performance information.

#### USE THESE CONVENIENT SECTION MARKERS.

TREE AND VINE CROPS

MINIMUM TILLAGE

ROPPING SYSTEM

ONCROP USES

EDS CONTROLLE

MIXING, ADDITIVES AND Application instruct

RAL INFORMATION

Read the entire label before using this product.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

REFORMULATION IS PROHIBITED. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

#### LIMIT OF WARRANTY AND LIABILITY

(Not applicable to consumer applications applied by the homeowner for noncommercial purposes as permitted by the supplemental labeling for one-quart containers.)

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF HIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LYABLE FOR ANY INCIDENTAL. CONSEQUENTIAL OR SPECIAL DAMAGES.

Buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

| APPLICATION EQUIPMENT AND TECHNIQUES            |                | 13      |
|---|----------------|---------|
| AERIAL EQUIPMENT                                |                |         |
| BROADCAST EQUIPMENT                             |                |         |
| CONTROLLED DROPLET APPLICATION (CDA)            |                |         |
| HAND-HELD & HIGH-VOLUME EQUIPMENT               |                |         |
| SELECTIVE EQUIPMENT                             |                | 16      |
| ATTENTION—AVOID DRIFT                           |                |         |
| CONSERVATION TILLAGE, MINIMUM TILLAGE SYSTEI    | MS AND NO-TILL | SYSTEMS |
| CORN AND SOYBEANS                               |                | 73      |
| CROPPING SYSTEMS                                |                | 63      |
| Alfalfa,  |                |         |
| Artichoke (Jerusalem)                           |                |         |
| Asparagus, Atemoya, Barley,                     |                |         |
| Beans, Edible (all),                            |                |         |
| Beet Greens, Beets (red, sugar),                |                |         |
| Berries and Small Fruit, Breadfruit             |                |         |
| Broccoli, Cabbage, Canistel                     |                |         |
| Carambola, Carrot, Cauliflower, Celery,         |                |         |
| Chicory, Corn (all), Cotton, Cucumber, Dates,   |                |         |
| Eggplant, Forage Grasses,                       |                |         |
| Forage Legumes, Garlic, Gourds, Horseradish,    |                |         |
| Jackfruit, Jaboticaba, Kale, Lentils, Lettuce,  |                |         |
| Logan, Lychee,                                  |                |         |
| Melons, Mustard Greens, Oats,                   |                |         |
| Okra, Onion, Parsnips, Passion Fruit, Pastures, |                |         |
| Peanuts, Peas (all), Peppers, Persimmons,       |                |         |
| Pineapple, Potato (Irish, sweet), Pumpkin,      |                |         |
| Radish, Rice, Rutabagas, Sapodilla,             |                |         |
| Sapote (Black, Mamey, White), Sorghum (milo),   |                |         |
| Soursop, Soybeans, Spinach,                     |                |         |
| Squash (Summer, Winter), Sugar Apple, Sugarc    | ane,           |         |
| Tamarind, Tomatillo, Tomato, Turnip,            |                |         |
| Watercress, Watermelon, Wheat, Yams             |                |         |
| FALLOW & REDUCED TILLAGE SYSTEMS                | 61             | 68      |
| ECOFARMING                                      |                |         |

73 thru 75 63 thru 86

68 thru 71 70, 71

| AID TO TILLAGE                                 | 71         |
|--|------------|
| PREHARVEST APPLICATIONS                        |            |
| COTTON   | 75, 76     |
| SELECTIVE EQUIPMENT                            | 65, 66     |
| SPOT TREATMENT                                 | 65         |
| TANK MIXTURES                                  | 68 thru 76 |
| DIRECTIONS FOR USE                             | 8 thru 86  |
| ENVIRONMENTAL HAZARDS                          | 7          |
| FARMSTEAD WEED CONTROL                         | 51         |
| GENERAL INFORMATION                            | 8, 9, 10   |
| INDUSTRIAL, RECREATIONAL & PUBLIC AREAS        | 47, 48     |
| INGREDIENTS                                    | 8          |
| LIMIT OF WARRANTY & LIABILITY                  | 2, 3       |
| MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS | 10 thru 13 |
| NONCROP USES                                   | 47 thru 63 |
| BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION | 62, 63     |
| COOL SEASON TURF GROWTH REGULATION             | 60, 61, 62 |
| TANK MIXTURES                                  | 61, 62     |
| ORNAMENTALS AND CHRISTMAS TREES                | 51, 52     |
| RELEASE OF BERMUDAGRASS OR BAHIAGRASS          | 55 thru 60 |
| CUT STUMP TREATMENTS                           | 52, 53     |
| INJECTION & FRILL APPLICATIONS                 | 53         |
| TANK MIXTURES                                  |            |
| INDUSTRIAL SITES                               | 48, 49     |
| NONCROP SITES                                  | 49, 50     |
| TURFGRASSES & GRASSES FOR SEED PRODUCTION      | 54, 55     |
| COOL SEASON TURF GROWTH REGULATION             | 60 thru 62 |
| TREE & VINE CROPS                              | 77         |
| MIDDLES MANAGEMENT                             | 77 thru 80 |
| STRIPS   | 80 thru 83 |
| ORCHARD FLOORS                                 | 83, 84     |
|  |            |

42 thru 47

| TREE CROPS—Ace     | rola, Almond, Apple, Atemoya,          |                            |
|--------------------|--|----------------------------|
| Apricot, Avocado   | , Banana, (Plantains), Breadfruit,     |                            |
| Canistel, Carami   | ols, Cherry, Citron, Coffee, Dates,    |                            |
| Figs, Filbert, Gra | pefruit, Guava, Jaboticaba,            |                            |
| Jackfruit, Kumqu   | at, Lemon, Lime, Longan,               |                            |
| Lychee, Macadar    | nia, Mango, Nectarine, Olives,         |                            |
| Orange, Papaya,    | Passionfruit, Peach, Pear, Pecan,      |                            |
| Persimmons, Pis    | tachio, Plum/Prune, Sapadilla,         |                            |
| Sapote, Soursop,   | Sugar Apple, Tamarind, Tangelo,        |                            |
| Tangerine, Teas,   | Tropical Fruit, Walnut                 | 85, 86                     |
| VINE CROPS—Kiw     | Fruit, Grapes (Table, Wine or Raisin)  | 86                         |
| PRECAUTIONARY S    | ratements                              | 7, 8                       |
| STORAGE AND DISP   | OSAL                                   | 8                          |
| TANK MIXTURES      | 11, 12, 29, 30, 33 thru 41, 48 thru 50 | ), 61 thru 62, 68 thru 70, |
|                    |  | 71 thru 77, 80 thru 86     |
| WEEDS CONTROLLED   |  |                            |
| ANNUAL             |  | 23 thru 31                 |
| PERENNIAL          |  | 31 thru 41                 |

**WOODY BRUSH AND TREES** 

#### PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals

Keep out of reach of children.

## WARNING!

Causes Substantial but temporary eye injury. Harmful if inhai fd.

Do not get in eyes or breathe spray mist or get in or on clothing.

Wear goggles, face shield or safety glasses.

Wash thoroughly with soap and water after handling.

Remove contaminated clothing and wash before reuse.

FIRST AID: IF IN EYES, hold eyelids open and flush with plenty of water. Get medical attention.

IF INHALED, remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth, Get medical attention.

IF SWALLOWED, drink promptly a large quantity of milk, egg whites, or gelatin solution. If these are not available drink large quantities of water. Get medical attention.

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

#### Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

#### Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

#### ACTIVE INGREDIENT:

| * Glyphosate, N-(phosphonomethyl) glycine, in t | the form of its |
|---|-----------------|
| isopropylamine salt                             | 41.0%           |
| INERT INGREDIENTS:                              | 59.0%           |
|   | 100.0%          |

\* Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient, glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

#### Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

See container label for STORAGE AND DISPOSAL instructions.

#### **GENERAL INFORMATION**

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDI-TIONS AS SPECIFIED WITHIN THIS LABEL.

This product, a water soluble liquid, mixes readily with water to be applied as a foliar spray for the control or destruction of most herbaceous plants. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of aboveground growth and deterioration of underground plant parts.

Unless otherwise specified on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "Weeds Controlled" section of this label. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow. For this reason, best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the recommended range when (1) weed growth is heavy or dense, or (2) weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the chemical off the foliage and a repeat treatment may be required.

This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

Keep people and pets off treated areas until spray solution has dried.

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

#### ATTENTION

AVOID DRIFT, EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PRE-VENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants, or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

# MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIP-MENT CAPABLE OF DELIVERING DESIRED VOLUMES. DO NOT APPLY WHEN WIND OR OTHER CONDITIONS FAVOR DRIFT. HAND GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

#### MIXING

This product mixes readily with water, Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product (see the "Directions for Use" and "Weeds Controlled" sections of this label) near the end of the filling process and mix well. Remove hose from tank immediately after filling to avoid siphoning back into the carrier source. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

#### TANK MIXTURES

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Mix labeled tank mixtures of this product with water as follows:

- 1. Place a 20 to 35 mesh screen or wetting basket over filling port.
- 2. Through the screen, fill the sprayer tank one-half full with water and start agitation.
- If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
- If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
- If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
- Continue filling the sprayer tank with water and add the required amount of this product near the end of the filling process.
- Where nonionic surfactant is recommended, add this to the spray tank before completing the filling process.
- Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground applications equipment, use flat fan nozzles.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water.

#### **ADDITIVES**

#### SURFACTANTS

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

#### AMMONIUM SULFATE

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, and this product plus 2,4-D, Banvel<sup>1M</sup> or residual herbicide tank mixtures on annual and perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Low quality ammonium sulfate may contain material that will not readily dissolve which could result in nozzle tip plugging. To determine quality, perform a jar test by adding ½ cup of ammonium sulfate to 1 gallon of water and agitate for 1 minute. If undissolved sediment is observed, predissolve the ammonium sulfate in water and filter prior to addition to the spray tank. If ammonium sulfate is added directly to the spray tank, add slowly with agitation. Adding too quickly may clog outlet line. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactant. Thoroughly rinse the spray system with clean water after use to reduce the spray system with clean water after use to reduce the spray system with clean water after use to reduce the spray system with clean water after use to reduce the spray system with clean water after use to reduce the spray system with clean water after use to reduce the spray tank.

NOTE: The use of ammonium sulfate as an additive does not preclude the need for additional surfactant. Do not use herbicide rates lower than recommended in this label

IMBanvei is a trademark of Sandoz, Inc.

#### **COLORANTS OR DYES**

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

# APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

Aerial-Fixed Wing and Helicopter

#### **Broadcast Spray**

Controlled Droplet Applicator (CDA)—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

Hand-Held and High-Volume Spray Equipment—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, lances and other hand-held spray equipment used to direct the spray onto weed foliage and vehicle-mounted high-volume spray equipment for spray-to-wet applications.

Selective equipment—Recirculating sprayers, shielded sprayers and wiper applicators.

See the appropriate part of this section for specific rates of application and instructions.

#### AERIAL EQUIPMENT

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. See the "Weeds Controlled" section of this label for specific rates. Unless otherwise specified, do not exceed one quart per acre. (Aerial applications of this product may be made in annual cropping conventional tillage systems,

fallow and reduced tillage systems, preharvest, silvicultural sites, and rights-of-way. Refer to the individual use area sections of this label for recommended volumes and application rates.) FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS. RESTRICTIONS AND REQUIREMENTS.

This product plus Oust tank mixtures may not be applied by air in California.

Avoid direct application to any body of water.

AVOID DRIFT.—DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY, OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT US NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

#### BROADCAST EQUIPMENT

For control of annual or perennial weeds listed on this label using broadcast equipment—Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified on this label. See the "Weeds Controlled" section of this label for specific rates. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzle to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of soray droplets.

#### CONTROLLED DROPLET APPLICATION (CDA)

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of labeled annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 MPH (1 quart per acre). For the control of labeled perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 MPH (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

#### HAND-HELD and HIGH-VOLUME FOUIPMENT

Use coarse sprays only.

Mix this product in clean water and apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff.

For control of annual weeds listed on this label, apply a 0.5 percent solution of this product plus nonionic surfactant to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. Allow three or more days before tillage or mowing.

For annual weeds over 6 inches tall, or when not using additional surfactant, or unless otherwise specified, use a 1 percent solution. For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

Less than complete coverage of weeds may result from the use of spray equipment designed for motorized spot treatments. Where less than complete coverage of annual

<del>72</del>

15

weeds occurs, use a 5 percent solution. Do not reduce recommended concentrations of this product when adding surfactant.

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

**Spray Solution** 

| DESIRED<br>VOLUME | AMOUNT OF ROUNDUP® |       |        |         |       |
|-------------------|--------------------|-------|--------|---------|-------|
|                   | 1/2%               | 1%    | 11/1%  | 2%      | 5%    |
| 1 gallon          | 3⁄3 OZ             | 1½ oz | 2 oz   | 23⁄3 oz | 6½ oz |
| 25 gallons        | 1 pt               | 1 qt  | 1½ qt  | 2 qt    | 5 qt  |
| 100 gallons       | 2 qt               | 1 gal | 1½ gal | 2 gal   | 5 gal |
| 2 tablespoons =   | = 1 fluid ounce    |       |        |         |       |

For use in knapsack sprayers, it is suggested that the proper amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

For hand-held WIPER APPLICATORS, see the "Selective Equipment" section and for handheld CONTROLLED DROPLET APPLICATORS, see the "Controlled Droplet Application (CDA)" section of this label.

# SELECTIVE EQUIPMENT

This product may be applied through a recirculating spray system, a shielded applicator, or a wiper applicator after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically recommended in cropping systems.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded applicator directs the herbicide solution onto weeds while shielding desirable vegetation from the herbicide.

A wiper applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

Contact of the herbicide solution with the desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least two inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting, or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

See the "Weeds Controlled" section of this label for recommended stage of growth for specific weeds.

#### NOTE

- Maintain equipment in good operating condition. Avoid leakage or dripping onto desirable vegetation.
- . Adjust height of applicator to insure adequate contact with weeds.
- Keep nozzle tips and wiping surfaces clean.
- . Keep spray patterns aligned into recovery chamber of the recirculating sprayer.
- Keep shields on shielded applicators adjusted to protect desirable vegetation.
- Maintain recommended roller RPM on roller applicators while in use.
- · Keep wiper material at proper degree of saturation with herbicide solution.
- DO NOT use wiper equipment when weeds are wet.
- DO NOT operate equipment at ground speeds greater than 5 mph. Weed control may be
  affected by speed of application equipment. As weed density increases, reduce equipment ground speed to ensure good coverage of weeds.
- Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying on the upper end of a wiper applicator.
- Variation in equipment design may affect weed control. With wiper applicators, the wiping material and its orientation must allow delivery of sufficient quantities of the recommended herbicide solution directly to the weed.

- Care must be taken with all types of wipers to ensure that the absorbent material does not become oversaturated, causing the herbicide to drip on desirable vegetation.
- Mix only the amount of solution to be used during a one-day period, as reduced activity
  may result from use of leftover solutions. With all equipment, drain and clean sprayer
  and wiper parts immediately after using this product by thoroughly flushing with water.

#### RECIRCULATING SPRAYERS

Recirculating sprayer calibration is made on the basis of ground speed and delivery volume. Two procedures can be used to calibrate: (1) determine the discharge being delivered per minute, then operate at the designated ground speed, or (2) select the desired ground speed and then adjust the sprayer to deliver the recommended volume per minute (this may require nozzle changes). Use the appropriate table below.

Do not operate at nozzle pressure above 20 PSI.

Table 1. Use this table when calibrating box or row-type recirculating sprayers. Box or row-type sprayer calibration is based on the total discharge collected per row. Use only straight stream or 15° fan-type nozzles.

| *VOLUME PE | R MINUTE PER RO |
|------------|-----------------|
| <u>MPH</u> | Fluid Ounces    |
| 2          | 26 to 35        |
| 3          | 38 to 51        |
| 4          | 51 to 68        |
| 5          | 65 to 86        |

<sup>\*</sup> NOTE: Be certain the amount collected is for all spray streams treating one row.

**Table 2.** Use this table when calibrating broadcast type recirculating sprayers. Broadcast recirculating sprayer calibration is based on the discharge collected per minute from one nozzle on a 20-inch spacing.

| VOLUME PER | MINUTE PER NOZZLE |
|------------|-------------------|
| MPH        | Fluid Ounces      |
| 2          | 7 to 9            |
| 3          | 10 to 13          |
| 4          | 13 to 18          |
| 5          | 16 to 22          |

When applied as recommended under the conditions described for recirculating sprayers, this product will control the following weeds growing a minimum of 6 inches above desirable vegetation.

Perennial Broadleaf Weeds—To SUPPRESS the following weeds, mix in a ratio of 4 quarts of this product in 20 gallons of water and apply as directed.

| hemn |
|------|

Apocynum cannabinum

#### Milkweed

Asclepias syriaca

Perennial Grasses and Annual Broadleaf Weeds—To control the following weeds, mix in a ratio of 3 quarts of this product in 20 gallons of water and apply as directed:

## Cocklebur Xanthium sti

Xanthium strumarium

Johnsongrass Sorghum halepense Pigweed, redroot

Amaranthus retroflexus

#### Sunflower

Helianthus annuus

Annual Grasses—To control the following weeds, mix in a ratio of 2 quarts of this product in 20 gallons of water and apply as directed:

#### Corn Zea mays

Shattercane

Sorghum bicolor

## SHIELDED APPLICATORS

When applied as directed under conditions described for shielded applicators, this product will control those weeds listed in the "Weeds Controlled" section of this label.

Shielded applicators which apply the herbicide solution as a spray band should be calibrated on a broadcast equivalent rate and volume basis. To determine these:

| Band width |   | Herbicide |   | Herbicide   |
|------------|---|-----------|---|-------------|
| in inches  | X | Broadcast | = | Band RATE   |
| Row width  |   | RATE      |   | per acre    |
| in inches  |   | per acre  |   |             |
| Band width |   | Broadcast |   | Band        |
| in inches  | X | VOLUME of | = | VOLUME      |
| Row width  |   | solution  |   | of solution |
| in inches  |   | per acre  |   | per acre    |

Use nozzles that provide uniform coverage within the treated area. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT WITH DESIRABLE VEGETATION.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

#### WIPER APPLICATORS

Wiper applicators include either roller or wick devices which physically wipe appropriate concentrations or amounts of this product directly onto the weed. Equipment must be designed, maintained, and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Do not add surfactant to the herbicide solution.

For Roller Applicators—Mix 1 gallon of this product in enough water to prepare 10 gallons of herbicide solution (10 percent solution). Apply this solution to perennial weeds or annual broadleaf weeds listed in this "Wiper Applicators" section.

Mix 1 gallon of this product in enough water to provide 20 gallons of herbicide solution (5 percent solution). Apply this solution to annual grasses listed in this "Wiper Applicators" section.

Roller speed should be maintained at 40 to 60 RPM.

For Wick or Wiper Applicators—Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this "Wiper Applicators" section.

In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial

Do not permit herbicide solution to contact desirable vegetation.

When applied as recommended under the conditions described for "Wiper Applicators", this product CONTROLS the following weeds:

## **ANNUAL GRASSES**

Corn

Zea mays

Panicum, Texas

Panicum texanum

Rye, common

Secale cereale

Shattercane Sorghum bicolor

#### ANNUAL BROADLEAVES

Sicklepod

Cassia obtusifolia

Spanishneedles
Bidens bibinnata

Starbur, bristly

Acanthospermum hispidum

When applied as recommended under the conditions described for "Wiper Applicators", this product SUPPRESSES the following weeds:

# ANNUAL BROADLEAVES

Beggarweed, Florida

Desmodium tortuosum

Dogfennel
Eupatorium capilliflorium

Pigweed, redroot

Amaranthus retroflexus

Ragweed, common Ambrosia artemisiifolia Ragweed, giant Ambrosia trifida

Sunflower
Helianthus annuus

Thistle, musk
Cardinis nutans

Velvetleaf
Abutilon theophrasti

# PERENNIAL GRASSES

Bermudagrass Cynodon dactylon

Guineagrass Panicum maximum

Johnsongrass Sorghum halepense Smutgrass

Sporobolus poiretii

Vaseygrass Paspalum urvillei

# PERENNIAL BROADLEAVES

Dogbane, hemp Apocynum cannabinum

Milkweed Ascelepias syriaca Nightshade, silverteaf Solanum elaeagnifolium

Thistle, Canada Cirsium arvense

# WEEDS CONTROLLED

This herbicide controls many annual and perennial grasses and broadleaf weeds.

#### ANNIIAI WEEDS

- Apply to actively growing grass and broadleaf weeds.
- Allow at least 3 days after treatment before tillage.
- For maximum agronomic benefit, apply when weeds are 6 inches or less in height.
- To prevent seed production, applications should be made prior to seedhead formation.
- This product does not provide residual control; therefore, delay application until maximum weed emergence. Repeat treatments may be necessary to control later germinating weeds.

# LOW-VOLUME BROADCAST APPLICATION (LOW-RATE TECHNOLOGY)

When applied as directed under the conditions described, this product will control the weeds listed below when:

- Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended. (See the "Aerial Application" section of this label for approved sites.)
- A nonionic surfactant is added at 0.5 to 1 percent by total spray volume. Use 0.5 percent surfactant concentration when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration for those surfactants containing less than 70 percent active ingredient.

#### NOTE

- The addition of 2 percent dry ammonium sulfate by weight or 17 pounds per 100 gallons of water may increase the performance of this product on annual weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "Mixing, Additives and Application Instructions" section of this label.
- Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

- For weeds that have been mowed, grazed, or cut, allow regrowth to occur prior to treatment.
- Refer to the "Tank Mixtures" portion of this section for control of additional broadleaf weeds.

| WEED SPECIES                             | MAXIMUM<br>HEIGHT/<br>LENGTH | RATE PER ACRE** (FLUID OUNCES) |
|--|------------------------------|--------------------------------|
| Foxtail<br>Setaria spp.                  | 12"                          | 8 oz.                          |
| Barnyardgrass<br>Echinochloa crus-galli  | 6"<br>(0 to 4"<br>(4 to 6"   | 12 oz.<br>16 oz.¹)<br>24 oz.¹) |
| Bluegrass, annual<br>Poa annua           |                              |                                |
| Brome, downy*  Bromus tectorum           |                              |                                |
| Mustard, blue<br>Chorispora tenella      |                              |                                |
| Mustard, tansy Descurainia pinnata       |                              |                                |
| Mustard, tumble Sisymbrium altissimum    |                              |                                |
| Mustard, wild<br>Sinapis arvensis        |                              |                                |
| Spurry, umbrella<br>Holosteum umbellatum |                              |                                |

| Barley<br>Hordeum vulgare                 | 12" |        |
|---|-----|--------|
| Rye<br>Secale cereale                     |     |        |
| Sandbur, field<br>Cenchrus spp.           |     |        |
| Shattercane<br>Sorghum bicolor            |     | - !    |
| Stinkgrass Eragrostis cilianensis         |     |        |
| <b>Wheat</b><br>Triticum aestivum         | 18" |        |
| Morningglory<br>Ipomoea spp.              | 2"  | 16 oz. |
| Sicklepod<br>Cassia obtusifolia           |     |        |
| Bluegrass, bulbous<br>Poa bulbosa         | 6"  |        |
| Cheat<br>Bromus secalinus                 |     |        |
| Chickweed, common<br>Stellaria media      |     |        |
| Chickweed, mouseear<br>Cerastium vulgatum |     |        |
| Corn<br>Zea mays                          |     |        |
| Goatgrass, jointed<br>Aegilops cylindrica |     |        |
| Groundsel, common<br>Senecio vulgaris     |     |        |
|   | 82  | 25     |

| WEED SPECIES   | MAXIMUM<br>HEIGHT/<br>LENGTH   | RATE PER ACRE** (FLUID OUNCES) |
|--|--|--------------------------------|
| Horseweed/Marestail<br>Conyza canadensis               | 6"   | 16 oz.                         |
| Lambsquarters, common<br>Chenopodium album             |  |                                |
| Pennycress, field<br>Fanweed<br><i>Thlaspi arvense</i> |  |                                |
| Rocket, London<br>Sisymbrium irio                      |  |                                |
| Ryegrass, Italian<br>Lolium multiflorum                | The state of the s |                                |
| Shepherdspurse Capsella bursa-pastoris                 | The second secon |                                |
| Spurge, annual<br>Euphorbia spp.                       | to transactivities 1   |                                |
| Buttercup<br>Ranunculus spp.                           | 12"  |                                |
| Cocklebur<br>Xanthium strumarium                       |  |                                |
| Crabgrass<br>Digitaria spp.                            |  |                                |
| Dwartdandelion<br>Krigia cespitosa                     |  |                                |
| Falseflax, smallseed Camelina microcarpa               | 83   |                                |

| Alopecurus carolinianus                          |          |        |
|--|----------|--------|
| Johnsongrass, seedling<br>Sorghum halepense      |          |        |
| Oats, wild<br>Avena fatua                        |          |        |
| Panicum, fall Panicum dichotomiflorum            |          |        |
| Panicum, Texas Panicum texanum                   |          |        |
| Pigweed, redroot  Amaranthus retroflexus         |          |        |
| Pigweed, smooth  Amaranthus hybridus             |          |        |
| Witchgrass<br>Panicum capillare                  |          |        |
| Sicklepod<br>Cassia obtusifolia                  | 3 to 4"  | 24 oz. |
| Signalgrass, broadleaf<br>Brachiaria platyphylla | 4"       |        |
| Horseweed/Marestail<br>Conyza canadensis         | 7 to 12" |        |
| Lambsquarters, common<br>Chenopodium album       |          |        |
| Spurge, annual<br>Euphorbia spp.                 |          |        |
| Rice, red<br>Oryza sativa                        | 4"       | 32 oz. |
| Teaweed<br>Sida spinosa                          |          |        |
|  |          | 27     |

Fortail Carolina

| WEED SPECIES                                  | MAXIMUM<br>HEIGHT/<br>LENGTH | RATE PER ACRE** (FLUID OUNCES) |
|---|------------------------------|--------------------------------|
| Sprangletop<br>Leptochloa spp.                | 6"                           | 32 oz.                         |
| Geranium, Carolina<br>Geranium carolinianum   | 12"                          |                                |
| Goosegrass<br>Eleusine indica                 |                              |                                |
| Primrose, cutleaf evening Oenothera laciniate |                              | , and the second               |
| Pusley, Florida<br>Richardia scabra           |                              |                                |
| Sicklepod<br>Cassia obtusifolia               | 5 to 12"                     |                                |
| Spanishneedles<br>Bidens bipinnata            |                              |                                |
| Filaree<br>Erodium spp.                       | 12"                          | 48 oz.                         |
| Sprangletop  Leptochloa spp.                  |                              |                                |

<sup>&</sup>lt;sup>1</sup> Use these rates to control barnyardgrass in Alabama, Arkansas, Mississippi, Missouri, Louisiana and Texas for preplant treatments.

<sup>\*</sup> For control in no-till systems, use 16 fluid ounces per acre.

<sup>\*\*</sup>For those rates less than 32 fluid ounces per acre, this product at rates up to 32 fluid ounces per acre may be used where heavy weed densities exist.

## TANK MIXTURES

# ROUNDUP® plus BANVEL plus NONIONIC SURFACTANT

# ROUNDUP® plus 2,4-D plus NONIONIC SURFACTANT

DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

These tank mixtures are recommended for use in fallow and reduced tiltage areas only. Follow use directions as given in the "Low-Volume Broadcast Application" section.

This product plus Banvel or 2,4-D will control the annual grasses and broadleaf weeds previously listed for this product alone at the indicated heights (except 8 fluid ounces per acre applications), plus the following broadleaf weeds. For those weeds previously listed at 8 fluid ounces of this product alone per acre, use 12 fluid ounces in these tank mixtures.

NOTE: Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting. The addition of Banvel in a mixture with this product may provide short-term residual control of selected weed species.

Apply 12 to 16 fluid ounces of this product plus 0.25 lb. a.i. of Banvel or 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control dense populations of the following annual broadleaf weeds when less than the height indicated:

Cocklebur (12")

Xanthium strumarium

Kochia\* (6")

Kochia scoparia

Lambsquarters (12")

Chenopodium album

Lettuce, prickly (6")
Lactuca serriola

Marestail/Horseweed (6")

Conyza canadensis

\*Controlled with Banvel tank mixture only.

## Morningglory (6")

lpomoea spp.

Pigweed, redroot (12")

Amaranthus retroflexus

Pigweed, smooth (12")

Amaranthus hybridus

Thistle, Russian (12")

Salsola kali

Apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control the following annual broadleaf weeds when less than 6 inches in height.

Ragweed, common

Ambrosia artemisiifolia

Ragweed, giant

Ambrosia trifida

Smartweed, Pennsylvania

Polygonum pensylvanicum

Velvetleaf

Abutilon theophrasti

# HIGH-VOLUME BROADCAST APPLICATIONS

When applied as directed under the conditions described, this product will control the weeds listed below when water carrier volumes are 10 to 40 gallons per acre for ground applications.

Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall. If weeds have been mowed, grazed, or cut, allow adequate time for new growth to recommended stages prior to treatment. These rates will also provide control of weeds listed in the "Low-Volume Broadcast Application" section.

# **WEED SPECIES**

Balsamapple\*

Momordica charantia

Bassia, fivehook

Bassia hyssopifolia

Brome

Bromus spp.

Fiddleneck

Amsinckia spp.

Flaxleaf Fleabane Conyza bonariensis

Fleabane

Erigeron spp.

Lettuce, prickly

Lactuca serriola

Panicum

Panicum spp.

Ragweed, common

Ambrosia artemisiitolia

Ragweed, giant

Ambrosia trifida

Smartweed, Pennsylvania

Polygonum pensylvanicum

Sowthistle, annual

Sonchus oleraceus

Kochia

Kochia scoparia

Thistle, Russian

Salsola kali

\*Apply with hand-held equipment only.

Sunflower

Helianthus annuus

Velvetleaf

Abutilon theophrasti

## PERENNIAL WEEDS

Apply this product as follows to control or destroy most perennial weeds:

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product on perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "Mixing, Additives and Application Instructions" section of this label.

When applied as recommended under the conditions described, this product WILL CONTROL the following PERENNIAL WEEDS:

Alfalfa

Medicago sativa

Alligatorweed\*

Alternanthera philoxeroides

Artichoke, lerusalem
Helianthus tuberosus

Bahiagrass

Paspalum notatum

Bentgrass

Agrostis spp.

Fescues

Festuca spp.

Fescue, tall

Festuca arundinacea

Guineagrass

Pancium maximum

Horsenettle

Solanum carolinense

Horseradish

Armoracia rusticana

88

# **PERENNIAL WEEDS (continued)**

Bermudagrass

Cynodon dactylon

Bermudagrass, water (knotgrass)

Paspalum distichum

Bindweed, field

Convolvulus arvensis

Bluegrass, Kentucky

Poa spp.

Blueweed, Texas

Helianthus ciliaris

Brackenfern

Pteridium aquilinum

Bromegrass, smooth

Bromus inermis

Bursage, woollyleaf

Canarygrass, reed

Phalaris arundinacea

Cattail

Typha spp.

Clover, red

Trifolium pratense

Clover, white

Trifolium repens

Cogongrass

Imperata cylindrica

Dallisgrass

Paspalum dilatatum

Johnsongrass

Sorghum halepense

**Kikuyugrass** 

Pennisetum clandestinum

Knapweed

Centaurea repens

Lantana

Lantana camara

Milkweed

Asclepias spp.

Muhly, wirestem

Muhlenbergia frondonsa

Mullein, common Verbascum thansus

Napiergrass

Pennisetum purpureum

Nightshade, silverleaf

Solanum elaeagnifolium Nutsedge, purple, vellow

Cyperus rotundus Cyperus esculentus

Orchardgrass

Dactylis glomerata

Pampas

Cortaderia jubata

**Paragrass** 

Brachiaria mutica

Phragmites\*

Phragmites spp.

**Dandelion** 

araxacum officinale

Dock, curly Rumex crispus

Dogbane, hemp

Apocynum cannabinum

Ryegrass, perennial Lolium perenne

Smartweed, swamp

Polygonum coccineum

Spurge, leaty\* Euphorbia esula

Sweet potato, wild\*

Ipomoea pandurata

Thistle, Canada Cirsium arvense

\*Partial Control

This product is not registered in California for use on water bermudagrass.

See "Directions for Use" and "Mixing, Additives and Application Instructions" sections of this label for labeled uses and specific application instructions.

Alfalfa—Apply 1 quart of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make application after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

Alligatorweed—Apply 4 quarts of this product per acre or apply a 1½ percent solution with hand-held equipment to provide partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain such control.

Bentgrass—For suppression in grass seed production areas. For ground applications only, apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total

Quackgrass

Redvine\*

Brunnichia ovata

Agropyron repens

Reed, giant

Arundo donax

Timothy Phleum pratense

Torpedograss\*

Panicum repens

Trumpetcreeper\*
Campsis radicans

Vaseygrass

Paspalum urvillei

Wheatgrass, western Agropyron smithii spray volume in 10 to 20 gallons of water per acre. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should be actively growing and have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results. Failure to use tillage after treatment may result in unacceptable control.

Bermudagrass—For control, apply 5 quarts of this product per acre and, for partial control, apply 3 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control. Allow 7 or more days after application before tillage.

Bermudagrass, water (knotgrass)—Apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Apply when water bermudagrass is actively growing and 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only—Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is actively growing and 12 to 18 inches in length. Allow 7 or more days before tillage.

Bindweed, field—For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are actively growing and are at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Banvel in 10 to 20 gallons of water per acre. At these rates, apply using ground application only.

The following tank mixtures with 2,4-D may be applied using aerial application equipment (except in California) in fallow and reduced tillage systems only.

For suppression on irrigated agricultural land apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or on fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. Also, for more specific use recommendations for California refer to the following paragraph:

For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. Allow 3 or more days after application before tillage.

Bluegrass, Kentucky / Bromegrass, smooth / Orchardgrass—Apply 2 quarts of this product in 10 to 40 gallons of water per acre when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1½ quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage.

Orchardgrass (sods going to no-till corn)—Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least three days following applications before planting. A sequential application of 3.75 to 4.5 quarts of Lariat® herbicide, or equivalent, will be necessary for optimum results. Lariat should be applied within 3 to 10 days following spring applications to prevent annual weed growth.

Lariat is not registered for use in California.

®Lariat is a registered trademark of Monsanto Company.

Blueweed, Texas—Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when weed is actively

<del>92</del>

growing and is at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

**Brackenfern**—Apply 3 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 1½ percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

Bursage, woollyleaf—For control, apply 2 quarts of this product plus 1 pint of Banvel per acre. For partial control, apply 1 quart of this product plus 1 pint of Banvel per acre. Add 0.5 to 1 percent nonionic surfactant by total spray volume and apply 3 to 20 gallons of water per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canarygrass, reed/Timothy/Wheatgrass, western — Apply 2 to 3 quarts of this product per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage.

Cogongrass—Apply 3 to 5 quarts of this product plus 0.5 to 1 percent nonionic surfactant in 10 to 40 gallons of water per acre. Apply when Cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

Dandelion/Dock, curly—Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

Dogbane, hemp—Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2.4-D plus

0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue, tall—Apply 3 quarts of this product in 10 to 40 gallons of water per acre to actively growing plants when most have reached boot-to-early seedhead stage of development.

Fall applications only—Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to fescue in the fall when actively growing and plants have 6 to 12 inches of new growth. Allow 7 or more days after application before tillage. A sequential application of 1 pint per acre of this product plus nonionic surfactant will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass—Apply 3 quarts of this product per acre or use a 1 percent solution with hand-held equipment. Apply to actively growing guineagrass when most has reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. Allow 7 or more days after application before tillage.

Johnsongrass/Ryegrass, perennial—Apply 1 to 3 quarts of this product per acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop or areas where annual tiliage (no-till) is not performed, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual harbicides when using the 1 quart per acre rate.

For burndown of Johnsongrass, apply 1 pint per acre plus 0.5 to 1 percent nonionic surfactant in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot Treatment (partial control or suppression)—Apply a 1 percent solution of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume when johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete. Kikuyugrass—Apply 2 to 3 quarts of this product per acre. Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

Knapweed/Horseradish—Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

Lamtana—Apply this product as a 1 to 11/4 percent solution using hand-held equipment only. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Allow 7 or more days after application before tillage.

Milkweed, common—Apply 3 quarts of this product per acre. Apply when actively growing and most of the milkweed has reached the late bud to flower stage of growth. Following small grain harvest or mowing, allow milkweed to regrow to a mature stage prior to treatment. Allow 7 or more days after application before tillage.

Muhly, wirestem—Apply 1 to 2 quarts of this product per acre. Use 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of
water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per
acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or
more in height and actively growing. Do not till between harvest and fall applications or in
the fall or spring prior to spring applications. Allow 3 or more days after application before
tillage. This product will not provide residual control of wirestem muhly from seeds which
germinate after application of this product. Do not tank mix with residual herbicides when
using the 1 quart per acre rate.

Nightshade, silverleaf—For control, apply 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth.

Nutsedge: purple, yellow—Apply 3 quarts of this product per acre as a broadcast spray, or apply a 2 percent solution from hand-hete empirement to control existing

nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications of 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre will provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For suppression to partial control of existing plants, apply 1 pint to 2 quarts of this product per acre, plus 0.5 to 1 percent nonionic surfactant in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants. Wait 7 days after treatment before tillage or mowing.

Pampas—Apply this product as a 1½ to 2 percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Phragmites—For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 5 quarts per acre as a broadcast spray or apply a 2 percent solution from hand-held equipment. In other areas of the U.S., apply 3 quarts per acre as a broadcast spray or apply a 1 percent solution from hand-held equipment for partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symotoms will be slow to develop.

Quackgrass—In Annual Cropping Systems, or in Pastures and Sods Followed by Deep Tillage: Apply 1 to 2 quarts of this product per acre. For the one quart rate, apply 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. For the 2 quart rate, apply in 10 to 40 gallons of water per acre. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height and actively growing. Do not till between harvest and fall applications or

in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, for best results use a moldboard plow.

Quackgrass—Pasture or Sod or Other Noncrop Areas Where Deep Tillage is Not Planned Following Application: Apply 2 to 3 quarts in 10 to 40 gallons of water per acre. Spray when the quackgrass is greater than 8 inches tall and actively growing. Do not till between harvest and fall application or in fall or spring prior to spring application. Allow 3 or more days after application before tillage.

Redvine—For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre plus 0.5 to 1 percent nonionic surfactant by total volume. Apply to actively growing plants in late September or early October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least one week before a killing frost.

Reed, giant—For control of giant reed, apply a 2 percent solution of this product when plants are actively growing. Best results are obtained when applications are made in late summer to fall.

Smartweed, swamp—Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Spurge, leafy—For suppression, apply 16 fluid ounces of this product plus 0.5 pound active ingredient 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall. Allow 7 or more days after application before tillage.

Sweet Potato, wild—Apply this product as a 2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications will be required. Allow the plant to reach the recommended stage of growth before retreatment. Allow 7 or more days before tillage.

Thistle, Canada—Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles when most are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression of Canada thistle, apply 1 quart per acre of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-0 per acre, plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

Torpedograss.—Apply 4 to 5 quarts of this product per acre to provide partial control of torpedograss. Apply to actively growing torpedograss when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost. Allow 7 or more days after application before tillage.

Trumpetcreeper—For control, apply 2 quarts of this product per acre in 5 to 10 gallons of water per acre. Apply to actively growing plants in late September or October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Other perennials listed on this label—Apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.

## WOODY BRUSH AND TREES

When applied as recommended under the conditions described, this product CONTROLS or PARTIALLY CONTROLS the following woody brush, plants and trees:

**Alder** 

Alnus spp.

Ash\*

Fraxinus spp.

Aspen, quaking

Populus tremuloides

Rearmat (Rearclover)

Chamaebatia foliolosa

**Birch** 

Betula spp.

Blackberry

Rubus soo.

Broom.

French

Cytisus monspessulanus

Scotch

Cytisus scoparius

Buckwheat, California\*

Eriogonum fasciculatum

Cascara\*

Rhamnus purshiana

Catsclaw\*

Acacia greggi

Ceanothus\*

Ceanothus son.

Chamise

Adenostoma fasciculatum

Locust, black\* Robinia pseudoacacia

Madrone

Arbutus menziesii

Manzanita

Arctostaphylos spp.

Maple:

Red\*\*

Acer rubrum

Sugar

Acer saccharum

Vina\*

Acer circinatum

Monkey Flower\* Mimulus guttatus

Oak-

Black\*

Quercus velutina

Northern Pin

Quercus palustris

Post

Quercus stellata

Red

Quercus rubra

Southern Red Quercus falcata

Cherry:

Bitter

Prunus emarginata

Black

Prunus serotina

Pin

Prunus pensylvanica

Coyote brush

Baccharis consanguinea

Creeper, Virginia\*

Parthenocissus quinquefolia

Dewberry

Rubus trivialis

Elderberry Sambucus spp.

Elm\*

Illmus soo.

Eucalyptus, Bluegum Eucalyptus glotulus

Hasardia\*

Haplopappus squamosus

Hawthorn

Crataegus spp.

Hazel Corylus spp.

Honeysuckle Lonicera spp.

Kudza

Pueraria lobata

White\*

Quercus alba

Persimmon\*
Diospyros spp.

Poison Ivy

Rhus radicans

Poison Oak

Rhus toxicodendron

Poplar\*, vellow

Liriodendron tulipifera

Raspberry

Rubus spp.
Rose, multiflora

Rosa multiflora

Russian-olive\*\*\*

Elaeagnus angustifolia

Sage, black

Sagebrush, California

Salmonberry Rubus spectabilis

Sassafras Sassafras aibidum

Sourwood Oxydendrum arboreum

Sumac:

Poison\* Rhus vernix

100

# **WOODY BRUSH AND TREES (continued)**

Tan Oak

Thimbleberry

Rubus parviflorus
Tobacco, tree\*

Nicotiana glauca

Camosis radicans

Trumpetcreeper

Salix soo.

Willow

Lithocarous densiflorus

Smooth\*

Rhus glabra

Winged\*
Rhus copallina

Sweetgum

Liquidambar styraciflua

Swordfern\*
Polystichum munitum

Polystichum munitum

Tallowtree, Chinese Sapium sebiferum

Haudraa Chinana

\*Partial control

\*\*See below for control or partial control instructions.

\*\*\*This product is not registered in California for use on Russian-olive.

NOTE: If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the recommended stages of growth.

Apply this product when plants are actively growing and, unless otherwise directed, after full leaf expansion. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

See "Directions for Use", and "Mixing, Additives, and Application Instructions" sections of this label for labeled uses and specific application instructions.

Apply this product as follows to control or partially control the following woody brush and trees

Alder / Dewberry / Honeysuckle / Post Oak / Raspberry—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray or as a 1 to  $1^1/2$  percent solution with hand-held equipment.

Aspen, quaking / Cherry: bitter, black, pin / Hawthorn / Oak, southern red / Sweetgum / Trumpetcreeper— For control, apply 2 to 3 quarts of this product per acre as a broadcast spray or as a 1 to 11/2 percent solution with hand-held equipment.

**Birch / Elderberry / Hazel / Salmonberry / Thimbleberry**—For control, apply 2 quarts per acre of this product as a broadcast spray or as a 1 percent solution with hand-held equipment.

Blackberry—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray, or 1 to 1½ percent solution with hand-held equipment. Make application after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3¼ percent solution of this product plus 0.5 to 1 percent non-ionic surfactant by total spray volume with hand-held equipment. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts

**Broom: French, Scotch**—For control, apply a  $1^1/2$  to 2 percent solution with hand-held equipment.

of this product in 10 to 40 gallons of water per acre.

Buckwheat, California / Hasardia / Monkey Flower / Tobacco, tree—For partial control of these species, apply a 1 to 2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

 ${f Catsclaw}$ —For partial control, apply as a 1 to  $1^1/2$  percent solution with hand-held equipment.

Coyote Brush—For control, apply a 1½ to 2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

102

Eucalyptus / Bluegum—For control of eucalyptus resprouts, apply a 2 percent solution of this product with hand-held equipment when resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants.

Kudzu—For control, apply 4 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

Madrone resprouts—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

Maple, red\*\*—For control, apply as a 1 to 1½ percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre as a broadcast spray.

Maple, sugar / Oak, northern pin / Oak red—For control, apply as a 1 to 11/2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Poison tvy / Poison Oak—For control, apply 4 to 5 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

Rose, multiflora—For control, apply 2 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

Sage, black / Sagebrush, California / Chamise / Tallowtree, Chinese—For control of these species, apply a 1 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Tan oak resprouts—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with fall applications.

Willow—For control, apply 3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment.

Other Woody Brush and Trees listed on this label—For partial control, apply 2 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment.

# **NONCROP USES**

See "General Information" and "Mixing, Additives and Application Instructions" sections of this label for essential product performance information and the following "Noncrop" sections for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE OF DESIRABLE TURFGRASSES, TREES, SHRUBS, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

NOTE: If spraying areas adjacent to desirable plants, use a shield made of cardboard, sheet metal or plyboard while spraying to help prevent spray from contacting foliage of desirable plants.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

This product does not provide residual weed control. For subsequent weed control, follow a label-approved herbicide program.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

# INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

When applied as directed for "Noncrop Uses", under conditions described, this product controls annual and perennial weeds listed on this label growing in areas such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, parking areas, parks, petroleum tank farms and pumping installations, pipelines, railroads, roadsides, schools, storage areas, other public areas and similar industrial or noncrop areas.

<u>104</u>

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "Weeds Controlled" section of this label.

This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the "Selective Equipment" part of "Application Equipment and Techniques" section of this label for information on proper use and calibration of this equipment.

# TANK MIXTURES FOR INDUSTRIAL SITES

# ROUNDUP® plus OUSTIM

Use on industrial sites including airports, industrial plants, lumberyards, petroleum tank farms, pumping stations, pipelines, railroads, roadsides, storage areas or other similar sites where bare ground is desired.

When applied as directed for "Noncrop Uses" under the conditions described, this product plus Oust provides control of annual weeds listed in the "Weeds Controlled" section of the label for this product and Oust, and control or partial control of the perennial weeds listed below

Apply 1 to 2 quarts of this product with 2 to 4 ounces of Oust in 10 to 40 gallons of spray solution per acre as a broadcast spray to actively growing weeds.

This product plus Oust tank mixtures may not be applied by air in California.

For control of annual weeds, use the lower rates of these products.

For control of the listed perennial weeds, use the higher rates of both products. For partial control, use the lower rates.

#### Bahiagrass

Paspalum notatum

Bermudagrass\*

Cynodon dactylon

Broomsedge

Andropogon virginicus

Dock, curly Rumex crisous

#### Johnsongrass\*\*

Sorehum halenense

Poorjoe\*\*

Diodia teres

Quackgrass

Agropyron repens

Trumpetcreper\*

#### Dogfennel

Eupatorium capilliforium

#### Fescue, tall

Festuca arundinacea

**Vasevgrass** 

Paspalum urvillei

Verbena hastata

Vervain, blue

\*Suppression at the higher rates only.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

MOust is a trademark of E. I. du Pont de Nemours and Company.

# TANK MIXTURES NONCROP SITES

When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control of the emerged perennial weeds listed in this label. When applied as a tank mixture, the following residual herbicides will provide preemergence control of the weeds listed in the individual product labels.

| ROUNDUP® plus DIURON                          |  |
|---|--|
| ROUNDUP plus KROVARIM I                       |  |
| ROUNDUP plus KROVAR II                        |  |
| ROUNDUP plus RONSTAR™ 50WP                    |  |
| ROUNDUP plus SIMAZINE, PRINCEPTM CALIBERTM 90 |  |
| ROUNDUP plus SIMAZINE 4L                      |  |
| ROUNDUP plus SIMAZINE 80W                     |  |
| ROUNDUP plus SURFLAN™ 75W                     |  |
| ROUNDUP plus SURFLAN AS                       |  |
|   |  |

<sup>\*\*</sup>Control at the lower rates.

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. See the "Mixing, Additives and Application Instructions" section of this label before preparing these tank mixtures.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

## CONTROL OF EMERGED WEEDS

Annual Weeds—Apply 1 quart per acre of this product in these tank mixtures when weeds are less than 6 inches tall and 1½ quarts per acre when weeds are more than 6 inches tall.

Perennial Weeds—For partial control of perennial weeds using these tank mixtures, apply 2 to 5 quarts per acre of this product. Follow the recommendations in the "Weeds Controlled" section of this label for stage of growth and rate of application for specific perennial weeds.

#### PREEMERGENCE WEED CONTROL

For preemergence weed control, refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements.

Mix only the quantity of spray solution which can be used during the same day. Do not allow these tank mixtures to stand overnight as this may result in reduced weed control.

APPLY THESE TANK MIXTURES THROUGH CONVENTIONAL BROADCAST EQUIPMENT ONLY.

<sup>™</sup>Princep and Caliber are trademarks of Ciba-Geigy Corporation.

<sup>™</sup>Krovar is a trademark of E.!. du Pont de Nemours and Company.

MRonstar is a trademark of Rhone-Poulenc, Inc.

<sup>&</sup>lt;sup>TM</sup>Surflan is a trademark of Elanco Products Company.

# FARMSTEAD WEED CONTROL

When applied as directed for "Noncrop Uses", under conditions described, this product controls undesirable vegetation listed on this label around farmstead building foundations, along and in fences, shelterbelts, and for general nonselective farmstead weed control.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

# **ORNAMENTALS AND CHRISTMAS TREES**

THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES.

When applied as instructed for the conditions described for "Noncrop Uses", this product controls undesirable vegetation listed on this label prior to planting ornamentals, within and around greenhouses and shadehouses, and as a postdirected spray around established ornamentals.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

When repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

Site Preparation—Following preplant applications of this product, any ornamental species may be planted. Precautions should be taken to protect nontarget plants during site preparation applications.

**Greenhouse/Shadehouse Use**—This product may be used to control weeds listed on this label which are growing in greenhouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

Postdirected Spray—Use as a postdirected spray around established woody ornamental species such as those listed below. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

108

Arborvitae

Thuja sop.

Azalea

Rhododendron spp.

Boxwood

Buxus spp.

Crabapple
Malus spp.

Euonymus

Euonymus spp.

Fir

Abies spp. Pseudotsuga spp.

lojoba

Simmondsia chinensis

Hollies Ilex spp. Lilac

Syringa spp.

Magnolia Magnolia spo.

Maple Acer spp.

Oak

Quercus spp.

Privet

Ligustrum spp.

Pine

Pinus spp. Spruce

Picea spp. Yaw

Taxus spp.

#### **CUT STUMP TREATMENTS**

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut vegetation close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL or SUPPRESS many types of woody brush and tree species, some of which are listed below: Alder

Alnus spp.

Eucalyptus/Bluegum

Eucalyptus glotulus

Madrone

Arbutus menziesii

Oak

Quercus spp.

Reed, giant

Arundo donax Saltcedar

Tamarisk soo.

Sweetgum

Liquidambar styraciflua

Tan Oak

Lithocarpus densiflorus

# INJECTION AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter (DBH). This is best achieved by applying 50 to 100 percent concentration of this material either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as this, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, application should be made during periods of active growth and after full leaf expansion.

This treatment WILL CONTROL the following woody species:

0ak

Quercus son.

Poplar

Populus spp.

Sweetgum

......

Sycamore

Platanus occidentalis

Liquidambar styraciflua

This treatment WILL SUPPRESS the following woody species:

Black gum

Nyssa sylvatica

Dogwood Cornus spp. Hickory

Carya spp.

Maple, red Acer rubrum

# TURFGRASSES AND GRASSES FOR SEED PRODUCTION

#### PREPLANT AND RENOVATION

When applied as directed for "Noncrop Uses", under conditions described, this product controls most existing vegetation prior to the planting or renovation of either turfgrasses or grass seed production areas.

For specific rates of application and instructions for control of various annual and perennial weeds, and woody brush and trees, see the "Weeds Controlled" section of this label.

For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

#### TURFGRASSES

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth given in the "Weeds Controlled" section of this label

Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the soray.

Desirable turfgrasses may be planted following the above procedures.

#### GRASSES FOR SEED PRODUCTION

Apply this product to actively growing weeds at the stages of growth given in the "Weeds Controlled" section of this label prior to planting or renovation of turf or forage grass areas grown for seed production.

DO NOT feed or graze treated areas within 8 weeks after application.

s after application

# ANNUAL WEED CONTROL IN DORMANT BERMUDAGRASS AND BAHIAGRASS TURF

When applied as directed for "Noncrop Uses" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Refer to the rate table for Roundup alone under the "Release of Bermudagrass and Bahiagrass" section of this label for recommended rates and volumes on the species to be suppressed or controlled. Treat only when turf is dormant and prior to spring greenup. Spot treatments or broadcast applications of this product in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained turfgrass areas; i.e., golf courses, lawns, etc. DO NOT APPLY TANK MIXTURES of this product plus Oust in highly maintained turfgrass areas.

# RELEASE OF BERMUDAGRASS OR BAHIAGRASS

NOTE: Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. Use tank mixtures of this product plus Oust only on railroads, highways, utility plant sites, or other rightof-way areas.

When applied as directed for "Noncrop Uses" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. This product may be tank-mixed with Oust as recommended for residual control. Make applications to dormant bermudagrass or bahiagrass. Tank mixtures of this product plus Oust may delay greenup. To avoid delays in greenup and minimize injury, do not add more than 1 ounce per acre of Oust on bermudagrass or more than 1/2 ounce per acre on bahiagrass, or treat when these grasses are in a semi-dormant condition.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is in or beyond the 4 to 6-leaf stage.

#### WEEDS CONTROLLED

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below:

Apply the recommended rates of this product alone or as a tank mixture in 10 to 25 gallons of water, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre.

For the best recommendation for the mixture of weeds within your geographic areas, contact your Monsanto sales representative.

# WEEDS CONTROLLED OR SUPPRESSED WITH ROUNDUP® ALONE\*

NOTE: C = Control

S = Suppression

|  |   | RO | UNDUP FL | UID OZ/AC | RE |    |  |  |  |
|--|---|----|----------|-----------|----|----|--|--|--|
| WEED SPECIES                             | 8 | 12 | 16       | 24        | 32 | 64 |  |  |  |
| Barley, little<br>Hordeum pusilium       | S | С  | С        | С         | С  | С  |  |  |  |
| Bedstraw, catchweed<br>Galium aparine    | S | C  | С        | С         | С  | С  |  |  |  |
| Bluegrass, annual<br>Poa annua           | S | С  | С        | С         | С  | С  |  |  |  |
| Chervil<br>Chaerophyllum tainturieri     | S | C  | C        | C         | c  | С  |  |  |  |
| Chickweed, common<br>Stellaria media     | S | С  | С        | С         | С  | C  |  |  |  |
| Clover, crimson<br>Trifolium incarnatum  | • | S  | S        | С         | С  | С  |  |  |  |
| Clover, large hop<br>Trifolium campestre | • | S  | S        | С         | С  | С  |  |  |  |
| Fescue, tall Festuca arundinaceae        | • | •  | 11       | 13°       | S  | S  |  |  |  |

| Geranium, Carolina<br>Geranium carolinianum | • | • | S | S | С | С |
|---|---|---|---|---|---|---|
| Henbit<br>Lamium amplexicaule               | • | S | С | С | С | С |
| Ryegrass<br>Italian<br>Lolium multiflorum   | • | • | S | С | С | С |
| Speedwell, corn<br>Veronica arvensis        | S | С | С | С | С | С |
| Vetch, common<br>Vicia sativa               | • | • | S | С | С | С |

<sup>\*</sup>These rates apply only to sites where an established competitive turf is present.

# WEEDS CONTROLLED OR SUPPRESSED WITH ROUNDUP® PLUS OUST\*

NOTE: C = ControlS = Suppression

|                             |  |               |                | ROU            | NDUP +         | OUST           |              |              |
|-----------------------------|--|---------------|----------------|----------------|----------------|----------------|--------------|--------------|
| WEED<br>SPECIES             | ROUNDUP (FL, OZ/A)<br>+<br>OUST (OZ/A) | 8<br>+<br>1/4 | 12<br>+<br>1/4 | 12<br>+<br>1/2 | 16<br>+<br>1/4 | 16<br>+<br>1/2 | 12<br>+<br>1 | 16<br>+<br>1 |
| Barley, little<br>Hordeum p |  | C             | С              | С              | С              | c              | С            | C            |
| Bedstraw, ca<br>Galium apa  |  | С             | С              | C              | С              | С              | C            | C            |
| Bluegrass, a<br>Poa annua   |  | S             | C              | C              | C              | С              | С            | C            |
| Chervil<br>haerophyli       | lu tainturieri                         | С             | C              | C              | С              | С              | C            | C            |
|                             |  |               |                |                |                |                |              |              |

|                              | · <u>·····························</u> |     |     | ROUN | VDUP + | OUST |    |    |
|------------------------------|--|-----|-----|------|--------|------|----|----|
|                              | ROUNDUP (FL. 0Z/A)                     | 8   | 12  | 12   | 16     | 16   | 12 | 16 |
| WEED                         | +                                      | +   | +   | +    | +      | +    | +  | +  |
| SPECIES                      | OUST (OZ/A)                            | 1/4 | 1/4 | 1/2  | 1/4    | 1/2  | i  | 1  |
| Chickweed,<br>Stellaria m    |  | S   | C   | С    | С      | C    | C  | C  |
| Clover, crim<br>Trifolium in |  | S   | S   | \$   | S      | C    | C  | С  |
| Clover, large<br>Trifolium c | •                                      | •   | •   | S    | S      | S    | C  | C  |
| Fescue, tall<br>Festuca ai   | rundinaceae                            | •   | •   | •    | •      | •    | S  | S  |
| Geranium, C<br>Geranium      | Carolina<br>carolinianum               | •   | \$  | \$   | C      | С    | С  | C  |
| <b>Henbit</b><br>Lamium a    | mplexicaule                            | •   | S   | C    | С      | C    | C  | C  |
| Ryegrass, It<br>Lolium mu    |  | •   | S   | S    | C      | C    | C  | C  |
| Speedwell, o<br>Veronica a   |  | S   | C   | £    | C      | C    | C  | C  |
| Vetch, comm                  |  | С   | C   | c    | C      | C ·  | c  | C  |

<sup>\*</sup> These rates or mixtures of rates apply only to sites where an established competitive turf is present.

#### RELEASE OF ACTIVELY GROWING BERMUDAGRASS

When applied as directed, this product will aid in the release of bermudagrass by providing control of annual species listed in the "Weeds Controlled" section of this and the Oust label, and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed on this label, use 1 to 3 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as plant size increases or as they approach flower or spedhead formation

Use the higher rate of this product for partial control of the following perennial species. Use the lower rates for suppression of growth. For best results, see the "Weeds Controlled" section of this label for proper stage of growth.

Bahiagrass

Paspalum notatum

Bluestem, silver

Andropogon saccharoides

Fescue, tall

Festuca arundinacea

\*Suppression at higher rates only.

\*\*Control at the higher rates.

This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 2 pints per acre of this product with 1 to 2 ounces of Oust per acre.

Use the lower rates of both mixtures to control annual weeds below 6 inches in height (or runner length in annual vines) that are listed in the "Weeds Controlled" section of this booklet and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages.

Use the higher rates of this product to provide partial control of the following perennial weeds. Use the lower rates for suppression of growth.

iohnsongrass\*\*

Sorghum halepense

Trumpetcreeper\* Campsis radicans

Vaseverass

Paspalum urvillei

#### **Bahiagrass**

Paspalum notatum

#### Bluestem, silver

Andropogon saccharoides

#### Broomsedge

Andropogon virginicus

#### Dock, curly

Rumex crispus

#### Dogfennel

Eupatorium capilliforium

#### Fescue, tall

Festuca arundinacea

\*Suppression at higher rates only.

\*\*Control at the higher rates.

#### Johnsongrass\*

Sorghum halepense

#### Poorjoe\*\*

Diodia teres

#### Trumpetcreeper\*

Campsis radicans

#### Vasevgrass

Paspalum urvillei

#### Vervain, blue

Verbena hastata

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may result.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

# COOL SEASON TURF GROWTH REGULATION

When applied as directed, this product will suppress growth and seedhead development of listed turf species in industrial sites.

This product is recommended for management of coarse turfs on roadside rights-of-way or other industrial areas. Do not use on high-quality turf or other areas where some turf color changes cannot be tolerated. Slight turf discoloration may occur but turf will regreen and regrow under moist conditions as effects of this product wear off.

Apply 4 to 6 fluid ounces of this product per acre alone or in a recommended tank mixture. Spray volumes of 10 to 40 gallons per acre are recommended.

When using this product, mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution.

This product can be used for growth and seedhead suppression of:

#### Tall Fescue Smooth Brome

For best results, apply this product in a recommended tank mixture to actively growing turfgrasses after greenup in the spring of the year. For suppression of seedheads, applications must be made before boot-to-seedhead stage of development. Applications made from seedhead emergence until maturity may result in turf discoloration or injury.

After mowing or removal of seedheads, this product in a recommended tank mixture may also be used to suppress the growth of certain turfgrasses. Allow turf to recover from stress caused by heat, drought, or mowing before making applications. Applications made to turf under stress may increase the potential for discoloration or injury.

#### ANNUAL GRASSES

For growth suppression of some annual grasses such as annual ryegrass, wild barley and wild oats, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

#### TANK MIXTURES

For the following tank mixtures, consult each product label for weeds controlled and the correct stage of application. Do not treat turf under stress.

#### Tank mixtures plus 2,4-D Amine

For additional weed control benefits, up to 1 pound a.i. per acre of 2,4-D amine may be added to the following tank mixtures. Consult the label for 2,4-D amine for weeds controlled.

#### TALL FESCUE

#### Roundup plus Telar™

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 1/2 ounce of Telar per acre.

<del>118</del>

This tank mixture can also be applied after mowing or removal of tall fescue seedheads for turf growth suppression. Make only one of the above applications per growing season.

#### Roundup plus Oust™

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 1/4 ounce of Oust per acre.

#### Roundup plus Escort<sup>TM</sup>

This tank mixture can be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Use up to 1/3 ounce of Escort per acre.

#### SMOOTH BROME

#### Roundup plus Oust

For suppression of smooth brome growth and seedheads and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 1/4 ounce of Oust per acre.

IMEscort and Telar are trademarks of E. I. du Pont de Nemours and Company.

# BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION

When applied as directed in the indicated noncrop areas (roadsides, airports, golf course roughs, and plant sites), this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.

Apply this product 1 to 2 weeks after full greenup of bahiagrass or after the bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces per acre of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume may be made at approximately 45 day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression,

sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

A tank mixture of this product plus Oust may be applied only on roadsides for seedhead inhibition and vegetative suppression. Apply 6 fluid ounces per acre of this product plus 0.25 ounce per acre of Oust, plus 0.5 to 1 percent nonionic surfactant by total spray volume 1 to 2 weeks following an initial spring mowing. When using this product plus Oust for suppression of bahiagrass, make only one application per year.

# **CROPPING SYSTEMS**

When applied as directed for "Cropping Systems", under the conditions described, this product controls annual and perennial weeds listed on this label, prior to the emergence of direct seeded crops or prior to transplanting of crops listed on this label.

See "General Information" and "Mixing, Additives and Application Instructions" sections of this label for essential product performance information.

See the following "Cropping Systems" sections for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Except as otherwise specified on this label, repeat treatments must be made before the crop emerges in accordance with the instructions of this label.

Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts per acre of this product per year.

Do not plant subsequent crops other than those on the label for 30 days following application.

Do not harvest or feed treated vegetation for 8 weeks following application. Following spot treatment or selective equipment use, allow 14 days before grazing domestic livestock or harvesting forage grasses and legumes.

ALFALFA\* ARTICHOKE (Jerusalem)

ASPARAGUS\*

ATEMOYA BARLEY\*

BEANS (AII) BEET GREENS

BEETS (Red, Sugar) BLACKRERRY

BLACKBERRY BLUEBERRY

BLUEBERRY BOYSENBERRY

BREADFRUIT BROCCOLI

CABBAGE CANISTEL

CARAMBOLA CARROT

CAULIFLOWER CELERY

CHICORY CORN (AII)\*

COTTON\* CRANBERRY CHCUMBER\*\*\*

CURRANT DATES OEWBERRY

OEWBERRY EGGPLANT\*\*\* FLOERBERRY

FORAGE GRASSES\*
FORAGE LEGUMES\*
GARLIC\*\*\*

GOOSEBERRY GOURDS\*\*\* HORSERADISH LETTUCE LOGANBERRY LONGAN

LYCHEE
MELONS\*\*\*
MUSTARO GREENS
DATS\*

OKRA
OLALLIEBERRY
ONION

PARSNIPS
PASSION FRUIT
PEANUTS

PEAS (AII)
PEPPER\*\*\*
PERSIMMONS

PERSIMMONS
PINEAPPLE\*\*\*\*
POTATO (Irish, Sweet)
PUMPKIN\*\*\*

RADISH RASPBERRY (Black, Red) RICE\*\*

RUTABAGA SAPODILLA SAPOTE (Black, Mamey, White) SORGHUM (Milo)\*

SOURSOP SOYBEANS\* SPINACH

SQUASH\*\*\* (Summer, Winter)
SUGAR APPLE
TAMARIND

TOMATILLO\*\*\*
TOMATOES\*\*\*†

TURNIBS 21

HUCKLEBERRY JABOTICABA JACKFRUIT KALE LENTILS WATERCRESS\*\*\*
WATERMELON\*\*\*
WHEAT\*
YAMS

- \* Spot treatments may be applied in these crops.
- \*\* Do not treat rice fields or levees when the fields contain flood water.
- \*\*\* Apply only prior to planting. Allow at least 3 days between application and planting.
- \*\*\*\* Do not feed or graze treated pineapple forage following application.

† Use is restricted to direct seeded crops only.

When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 1/2 inch natural rainfall or by applying water via a sprinkler irrigation system.

Spot Treatment (Only those crops with "\*" can be spot treated.)—Applications in growing crops must be made prior to heading of small grains and milo, initial pod set in soybeans, silking of corn, or boll opening on cotton.

For forage grasses and forage legumes see "Spot Treatment" in the "Pastures" section of "Cropping Systems" in this label.

For dilution and rates of application using boom or hand-held equipment, see "Mixing, Additives and Application Instructions" and "Weeds Controlled" sections of this label.

NOTE: FOR FORAGE GRASSES AND FORAGE LEGUMES, NO MORE THAN ONE-TENTH OF ANY ACRE SHOULD BE TREATED AT ONE TIME. FOR ALL OTHER CROPS, DO NOT TREAT MORE THAN 10 PERCENT OF THE TOTAL FIELD AREA TO BE HARVESTED.

THE CROP RECEIVING SPRAY IN TREATED AREA WILL BE KILLED. TAKE CARE TO AVOID DRIFT OR SPRAY OUTSIDE TARGET AREA FOR THE SAME REASON.

Selective Equipment—This product may be applied through recirculating sprayers, shielded applicators, or wiper applicators in cotton and soybeans. Shielded and wiper applicators may also be used in tree crops and grapes. Wiper applicators may be used in rutabagas, forage grasses and forage legumes, including pasture sites and grain sorghum (milo).

\* Do not use roller applicators. Do not feed or graze treated mito fodder. Do not ensile treated vegetation.

# **ASPARAGUS**

When applied as directed for "Cropping Systems" under the conditions described, this product controls weeds listed on this label in asparagus.

For specific rates of applications and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

**Prior to Crop Emergence**—Apply this product prior to crop emergence for the control of emerged labeled annual and perennial weeds. DO NOT APPLY WITHIN A WEEK BEFORE THE FIRST SPEARS EMERGE.

Spot Treatment—Apply this product immediately after cutting, but prior to the emergence of new spears, Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

Postharvest—Apply this product after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears. Direct contact of the spray with the asparagus may result in serious crop injury.

NOTE: Select and use recommended types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

# BERRIES AND SMALL FRUITS

For cranberries, apply after fruit set and no later than 30 days before harvest.

For other berries, apply as a preplant broadcast application, or as a directed spray or wiper application post-planting.

Wiper applicators may be used in cranberries in accordance with instructions in this section.

See "General Information" and "Mixing, Additives and Application Instructions" sections of this label for essential product performance information.

See the "Selective Equipment" part of the "Application Equipment and Techniques" section of this label for information on recommended use and calibration of this equipment.

For Wick or other Wiper Applicators—Mix 1 gallon of this product in 4 gallons of water to prepare a 20 percent solution. Apply the solution to emerged weeds. Apply after cranberry fruit set and no later than 30 days before harvest.

In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes, or foliage.

<u>124</u>

# **FALLOW AND REDUCED TILLAGE SYSTEMS**

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO SUPPLEMENTAL LABEL.

Use this product in fallow and reduced tillage systems for control of annual weeds prior to emergence of crops listed in this label. Refer to the "Weeds Controlled" section of this label for specific rates and instructions. This product may be applied using ground or aerial spray equipment. See the "Application Equipment and Techniques" section of this label for instructions.

- TANK MIXTURES
- ROUNDUP® plus BANVEL plus NONIONIC SURFACTANT
- ROUNDUP® plus 2,4-D plus NONIONIC SURFACTANT
- ROUNDUP® plus GOAL™ plus NONIONIC SURFACTANT

DO NOT APPLY BANVEL OR 2.4-D TANK MIXTURES BY AIR IN CALIFORNIA.

Applications of 2,4-D or Banvel must be made at least 7 days prior to planting corn. Applications of 2,4-D must be made at least 30 days prior to planting soybeans.

The addition of Banvel in a mixture with this product may provide short-term residual control of selected weed species. Some crop injury may occur if Banvel is applied within 45 days of planting. Refer to the Banvel and 2,4-D labels for cropping restrictions and other use instructions.

#### Roundup plus Goal Tank Mixtures

This product alone or in tank mixtures with Goal plus 0.5 to 1 percent nonionic surfactant by total spray volume will provide control of those weeds listed below.

Make applications when weeds are actively growing and at the recommended stages of growth. Avoid spraying when weeds are subject to moisture stress, when dust is on the foliage or when straw canooy covers the weeds.

| ROUNDUP<br>12 fluid oz/acre |      | ROUNDUP<br>16 fluid oz/acre  |     |  |  |  |
|-----------------------------|------|------------------------------|-----|--|--|--|
| Wheat                       | 18"* | Annual grasses at left plus: |     |  |  |  |
| Barley                      | 12"  | Ryegrass, annual             | 6"  |  |  |  |
| Bluegrass, annual           | 6"   | Chickweed                    | 6"  |  |  |  |
| Barnyardgrass               | 6"   | Groundsel                    | 6"  |  |  |  |
| Rye 6"                      |      | Marestail                    | 6"  |  |  |  |
|                             |      | Rocket, London               | 6"  |  |  |  |
|                             |      | Shepherdspurse               | 6"  |  |  |  |
|                             |      | Crabgrass                    | 12" |  |  |  |
|                             |      | Johnsongrass, seedling       | 12" |  |  |  |
|                             |      | Lambsquarters                | 12" |  |  |  |
|                             |      | Oats, wild                   | 12" |  |  |  |
|                             |      | Pigweed, redroot             | 12" |  |  |  |
|                             |      | Mustards                     | 12" |  |  |  |
| ROUNDUP<br>12 fluid oz/acre |      | ROUNDUP<br>16 fluid oz/acre  |     |  |  |  |
| +                           |      | +                            |     |  |  |  |
| GOAL**                      |      | GOAL**                       |     |  |  |  |
| 2 to 4 fluid oz/acre        |      | 2 to 4 fluid oz/acre         |     |  |  |  |
| Annual grasses above plus:  |      | Annual weeds above plus:     |     |  |  |  |
| Cheeseweed, common          | 3"   | Cheeseweed, common           | 6"  |  |  |  |
| Chickweed                   | 3"   | Groundsel                    | 6"  |  |  |  |
| Groundsel                   | 3"   | Chickweed                    | 12" |  |  |  |
| Rocket, London              | 6"   | Rocket, London               | 12" |  |  |  |
| Shepherdspurse              | 6"   | Shepherdspurse               | 12" |  |  |  |

<sup>\*</sup>Maximum height or length in inches.

<sup>\*\*</sup>Use the higher rate when weeds approach maximum recommended height or stands are dense.

These recommended tank mixtures may be applied using ground or aerial spray equipment. Refer to the "Weeds Controlled" section of this label for specific rates and instructions.

™Goal is a trademark of Rohm and Haas Company.

#### **ECOFARMING SYSTEMS**

The recommendations made in this section are not registered for use in California.

The Ecofarming System consists of the following rotation: winter wheat, corn/sorghum, ecofallow.

Use the following tank mixtures for control of emerged annual weeds before planting corn or sorghum in the Ecofarming System.

> ROUNDUP® at 16 to 20 fluid ounces per acre plus 2,4-D at 0.375 to 0.5 pound a.i. per acre plus ATRAZINE at 0.75 to 1 pound a.i. per acre plus LASSO® at 2.5 to 3 quarts per acre

The above tank mixture should be applied in 28-0-0 or 32-0-0 liquid fertilizer carrier at 20 to 30 gallons per acre. The liquid fertilizer may be diluted with water to achieve the required carrier volume.

WEEDS CONTROLLED—The following weeds, up to a maximum height of 4 inches, will be controlled:

Brome, downy

Bromus tectorum

Cheat

Bromus secalinus

Foxtail, green

Setaria viridis

Foxtail, yellow

Setaria lutescens

Kochia\*

Kochia scoparia

Lettuce, prickly

Lactuca serriola

Pigweed, redroot

Amaranthus retroflexus

Thistle, Russian

Salsola kali

Wheat, volunteer

Triticum aestivum

\*For improved control of kochia, add 4 fluid ounces per acre (0.125 pound a.i. per acre) of Banyel to the above tank mixture.

Risk of crop injury from 2,4-D or Banvel can be reduced by applying this treatment 7 to 14 days before planting.

Refer to the label booklet for Lasso herbicide for preemergence weed control achieved by this tank mixture

Refer to the specific product labels for crop rotation restrictions and cautionary statements for all products used in these tank mixtures.

® Lasso is a registered trademark of Monsanto Company.

#### AID TO TILLAGE

This product, when used in conjunction with preplant tillage practices, will provide control of downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make applications when weeds are actively growing and before they are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage. Tank mixtures with residual herbicides may result in reduced performance.

# **PASTURES**

Apply this product prior to planting forage grasses and legumes.

Pasture or Hay Crop Renovation—When applied as a broadcast spray, this product controls the annual and perennial weeds listed in this label prior to planting forage grasses or legumes. Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

Spot Treatment—When applied as a spot treatment as recommended, this product controls annual and perennial weeds listed in this label which are growing in pastures, forage grasses and forage legumes composed of bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa or clover.

Wiper Application—When applied as directed, this product controls or suppresses the weeds listed under "Wiper Applicators" in the "Selective Equipment" section of this label.

For spot treatment and wiper application, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Further applications may be made in the same area at 30 day intervals. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

# SUGARCANE

When applied as directed for "Cropping Systems", under the conditions described, this product controls those emerged annual and perennial weeds listed on this label growing in or around sugarcane or in fields to be planted to sugarcane. This product will also control undesirable sugarcane.

NOTE: Where repeat treatments are necessary, do not exceed a total of 10.6 quarts of this product per acre per year. Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

Broadcast Treatment—Apply this product in 10 to 40 gallons of water per acre on emerged weeds growing in fields to be planted to sugarcane.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

For removal of last stubble or ration cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 or more new leaves. Allow 7 or more days after application before tillage.

Spot Treatment in or Around Sugarcane Fields—For dilution and rates of application using hand-held equipment, see "Mixing, Additives and Application Instructions" and "Weeds Controlled" sections of this label

For control of volunteer or diseased sugarcane, make a 1 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled.

NOTE: When spraying volunteer or diseased sugarcane, the plants should have at least 7 new leaves.

Avoid spray contact with healthy cane plants since severe damage or destruction may result

Do not feed or graze treated sugarcane forage following apple



# CONSERVATION TILLAGE, MINIMUM TILLAGE AND NO-TILL SYSTEMS CORN AND SOYBEANS Tank Mixtures

The recommendations made in this section are not registered for use in California.

When applied as recommended under the conditions described, the tank mixtures listed in this section control many emerged weeds, and give preemergence control of many annual weeds where corn or soybeans will be planted directly into a cover crop, established sod, or in previous crop residues.

Refer to specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures. For mixing instructions, see the "Mixing, Additives and Application Instructions" section of this label.

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre before, during or after planting. Do not apply these mixtures after crop emergence.

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. The addition of 1 to 2 percent dry ammonium sulfate by weight may increase the performance of this product.

NOTE: When using these tank mixtures, do not exceed 4 quarts of this product per acre.

#### CORN

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

LASSO®/ALACHLOR ATRAZINE
LARIAT® CYANAZINE
BULLET® SIMAZINE
DUAL™ PROWL™
BICEP™

For improved burndown, this product may be tank-mixed with 2,4-D or dicamba. Applications of 2,4-D or dicamba must be made at least 7 days prior to planting cord. See the "Weeds Controlled" section for specific rate information.

#### SOYBEANS

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

CANOPY™ LOROX™ PLUS
COMMAND™ PREVIEW™
DUAL™ PROWL™
GEMINI™ TURBO™
LASSO®/ALACHLOR SCEPTER™
LEXONE™ SENCOR™
LINURON SQUADRON™

For improved burndown, this product may be tank-mixed with the following herbicides:

2,4-DB 2,4-D\*

\* Applications of 2,4-D must be made at least 30 days prior to planting soybeans. See the "Weeds Controlled" section for specific rate information.

#### CORN AND SOYBEANS

Annual Weeds—For difficult to control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall. For a complete list of annual weeds controlled, see the "Weeds Controlled" section of this label.

Perennial Weeds—At normal application times in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the "Weeds Controlled" section of this label for the proper stage of growth for perennial weeds.

Use of 2 to 4 quarts of this product per acre in the tank mixtures mentioned above, under these conditions provides top kill and reduces competition from many emerged perennial grass and broadleaf weeds. For emerged perennial weeds controlled, see the "Weeds Controlled" section of this label.

To obtain the desired stage of growth, it may be necessary to apply this product alone in the late summer or fall and then follow with a label-approved, seedling weed control program at planting.

USE OF THESE TANK MIXTURES FOR BERMUDAGRASS OR JOHNSONGRASS CONTROL IN MINIMUM TILLAGE SYSTEMS IS NOT RECOMMENDED. For bermudagrass control, follow the instructions under "Control of Perennial Weeds" section of this label and then use a label-approved, seedling weed-control program in a minimum tillage or conventional tillage system. For johnsongrass control, follow instructions under "Control of Perennial Weeds" section of this label, and then use a label-approved seedling weed-control program with conventional tillage.

Bullet, Lasso and Lariat are registered trademarks of Monsanto Company.

\*\*Canopy, Bladex, Gemini, Lexone, Lorox Plus and Preview are trademarks of E.I. duPont de Nemours and Company.

MDual is a trademark of Ciba-Geigy Corporation.

IMSencor and Turbo are trademarks of Bayer AG.

IMProwl, Scepter and Squadron are trademarks of American Cyanamid Company.

TMCommand is a trademark of FMC Corporation.

# PREHARVEST APPLICATIONS

#### COTTON

When applied as directed under the conditions described, this product controls annual and perennial weeds listed on this label prior to the harvest of cotton.

Broadcast Applications—This product may be applied using either aerial or ground spray equipment. For ground applications with broadcast equipment, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

FOR AERIAL APPLICATIONS, REFER TO THE "APPLICATION EQUIPMENT AND TECH-NIQUES" AND "AERIAL FOILIPMENT" SECTIONS OF THIS LABEL.

FOR AERIAL APPLICATIONS IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS

DO NOT EXCEED A MAXIMUM RATE OF 1 QUART PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR.

Weed Control—For specific rates of application and instructions for control of various annual and perennial weeds, for this product used alone or in the following tank mixtures, see the "Weeds Controlled" section of this label.

To control johnsongrass using multiple-directed or broadcast over-the-top-spray equipment, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. Ensure complete coverage.

For partial control of field bindweed, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre. Apply when bindweed is actively growing and 12 inches or greater in length. Reduced performance may result if bindweed is under drought stress.

#### **Tank Mixtures**

ROUNDUP® plus DEF™ 6
ROUNDUP plus FOLEX™
ROUNDUP plus PREP™

#### ROUNDUP plus PREP plus DEF 6 or FOLEX

When applied as recommended under the conditions described, these tank mixtures control annual and perennial weeds listed on this label prior to the harvest of cotton. For application guidelines, precautions and use rates, refer to the DEF, Folex and Prep labels.

This product when tank-mixed with DEF 6 or Folex defoliants may provide enhancement of cotton leaf drop and regrowth inhibition.

**Timing of Application—**Apply this product or these tank mixtures for preharvest weed control after 60 percent of the cotton bolls have opened.

NOTE: DO NOT APPLY TO CROPS GROWN FOR SEED. Allow a minimum of 7 days between application and harvest. Do not feed or graze treated cotton forage or hay following preharvest applications.

MDEF is a trademark of Mobay Chemical Corporation.

<sup>™</sup>Folex and Prep are trademarks of Rhone-Poulenc, Inc.

# TREE AND VINE CROPS

This product is recommended for weed control in established groves, vineyards, or orchards, or for site preparation prior to transplanting crops listed in this section. Applications may be made with boom equipment, CDA, shelded sprayers, hand-held and high-volume wands, lances, or orchard guns, or with wiper applicator equipment, except as directed in this section. See the "Application Equipment and Techniques" section of this label for specific information on use of equipment.

When applying this product, refer to the "Weeds Controlled" section of this label and to specific recommendatons in this section for rates to be used.

#### NOTE

Repeat treatments may be necessary to control weeds originating from underground parts of untreated weeds or from seeds. This product does not provide residual weed control. For subsequent weed control, use repeated applications of this product. Do not apply more than 10.6 quarts of this product per acre per year.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT, OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCK-ERS, FRUIT, OR OTHER PARTS OF TREES OR VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

AVOID PAINTING OUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut and have not been allowed to regrow to the recommended stage for treatment.

For specific rates of applications and instructions, see the "Weeds Controlled" section of this label, and to specific recommendations which follow.

#### MIDDLES MANAGEMENT

## FOR ANNUAL WEEDS IN MIDDLES BETWEEN ROWS OF TREE AND VINE CROPS

For citrus crops treat uniformly between trees.

<u> 134</u>

#### **ROUNDUP®**

## ROUNDUP plus GOAL™

This product alone or in mixtures with Goal will control or suppress the annual weeds listed below.

Apply the recommended rates of this product, either alone or in mixtures with Goal, plus 0.5 to 1 percent nonionic surfactant by spray volume in 3 to 10 gallons of water per acre. Apply when weeds are actively growing and less than 6 inches in height or diameter. If weeds are under drought stress, irrigate prior to application. Reduced control may occur if weeds have been mowed prior to application. Up to 48 fluid ounces per acre of this product may be used to control weeds which have been mowed, are stressed, or are growing in dense populations.

|   | MUMIXAM                            | RATE PER ACRE                 |                           |  |  |
|---|------------------------------------|-------------------------------|---------------------------|--|--|
| WEED SPECIES                            | HEIGHT/<br>DIAMETER<br>(INCHES)    | ROUNDUP®<br>(FLUID<br>OUNCES) | GOAL<br>(FLUID<br>OUNCES) |  |  |
| Barley<br>Hordeum vulgare               | 6                                  | 8                             | •                         |  |  |
| Bluegrass, annual<br>Poa annua          |                                    |                               |                           |  |  |
| Barnyardgrass<br>Echinochloa crus-galli | 6                                  | 12                            | •                         |  |  |
| Chickweed, common<br>Stellaria media    | a - Phallin Olympia - Investoria - |                               | , on the desired          |  |  |
| Red Maids<br>Calandrinia ciliata        |                                    |                               |                           |  |  |
| Crabgrass<br>Digitaria spp.             | 6                                  | 16                            | •                         |  |  |

|   | 16 to 32  | + | 4 to 16** |
|---|-----------|---|-----------|
|   |           |   |           |
|   |           |   |           |
|   |           |   |           |
|   |           |   |           |
|   |           |   |           |
|   |           |   |           |
|   |           |   |           |
|   |           |   |           |
| 3 | 12 to 32  | + | 4 to 16   |
| 6 | 16 to 32  | + | 4 to 16   |
|   |           |   |           |
|   |           |   |           |
|   |           |   |           |
|   | PARTY BIS |   |           |

|                                     | MAXIMUM                         | RATE PE                       | RACRE                     |
|-------------------------------------|---------------------------------|-------------------------------|---------------------------|
| WEED SPECIES                        | HEIGHT/<br>DIAMETER<br>(INCHES) | ROUNDUP®<br>(FLUID<br>OUNCES) | GOAL<br>(FLUID<br>OUNCES) |
| Pursiane, common Portulaca oleracea | 6                               | 16 to 32 +                    | - 4 to 16                 |

<sup>\*</sup>Suppression only.

#### STRIPS

# FOR ANNUAL AND PERENNIAL WEEDS IN STRIPS OF TREE AND VINE CROPS

# TANK MIXTURES WITH RESIDUAL HERBICIDES

When applied as a tank mixture, this product provides control of the emerged annual weeds and control or suppression of emerged perennial weeds listed in this label. The fol-

| lowing | residual herbicides will provide preemergence control of those weeds liste<br>ual product labels. |  |
|--------|---|--|
|        | ROUNDUP® plus GOAL™ 1.6E  |  |
|        | ROUNDUP plus KARMEX™ DF   |  |
|        | ROUNDUP plus KROVAR™ I  |  |
|        | ROUNDUP plus KROVAR™ II   |  |
|        | ROUNDUP plus SIMAZINE, PRINCEP CALIBER™ 90  |  |
|        | ROUNDUP plus SIMAZINE 4L  |  |
|        | ROUNDUP plus SIMAZINE 80W   |  |
|        |   |  |

<sup>\*\*</sup>The mixture of this product plus Goal is recommended when weeds are stressed or growing in dense populations.

ROUNDUP plus SOLICAM™ 80DF

ROUNDUP plus SURFLAN™ AS

ROUNDUP plus SURFLAN 75W

ROUNDUP plus SIMAZINE

(80W, or 4L, or PRINCEP CALIBER 90)

plus SURFLAN (AS or 75W)

ROUNDUP plus GOAL (1.6E)

plus SURFLAN (AS or 75W)

ROUNDUP plus GOAL (1.5E) plus SIMAZINE

(80W, or 4L, or PRINCEP CALIBER 90)

ROUNDUP plus GOAL (1.6E) plus SURFLAN (AS or 75W)

plus SIMAZINE (80W, 4L, or PRINCEP CALIBER 90)

Do not apply these tank mixtures in Puerto Rico.

When tank-mixing with residual herbicides, add an agriculturally approved nonionic surfactant at  $0.5\ {\rm to}\ 1$  percent by volume of spray solution.

Refer to the individual product labels for specific crops, rates, geographical restrictions and precautionary statements.

Read and carefully observe the label claims, cautionary statements, rates and all other

information on the labels of all products.

\*\*Karmex is a trademark of E.I. duPont de Nemours and Company.

# RECOMMENDED RATES

Annual Weeds—Apply 1 to 5 quarts per acre of this product in these tank mixtures. Use rates at the higher end of the recommended range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

Perennial Weeds—Apply 1 pint to 5 quarts per acre of this product in these tank mixtures to control or suppress perennial weeds. Follow the recommendations in the "Weeds Controlled" section of this label for stage of growth and application rates for specific perennial weeds.

# ■ ROUNDUP® plus GOAL plus SIMAZINE/SURFLAN

This product plus low rates of Goal in three-way or four-way mixtures with simazine and/or Surflan will provide postemergence control of the weeds listed below.

Refer to the individual simazine and Surflan labels for preemergence rates, weeds controlled, precautionary statements and other important information.

Apply these tank mixtures in 3 to 40 gallons of water. Add 0.5 to 1 percent nonionic surfactant by total spray volume to the spray solution.

Apply 1 to 5 quarts per acre of this product plus 4 to 48 fluid ounces per acre of Goal plus labeled rates of simazine and/or Surflan to control the following weeds:

#### Barley, wild

Hordeum leporinum

#### Bluegrass, annual

Poa annua

#### Cheeseweed, common

Malva sop.

#### Chickweed, common

Stellaria media

# Filaree\*

Erodium spp.

#### Fleabane, flaxleaf

Conyza bonariensis

#### Groundsel, common

Senecio vulgaris

\*Use a minimum of 1.5 quarts of this product in these mixtures.

#### Horseweed/Marestail Convza canadensis

Nettle, stinging

# Pineappleweed

Matricaria matricariodes

#### Rocket London

Sisymbrium irio

#### Shepherdspurse

Capsella bursa-pastoris

#### Sowthistle, annual

Sonchus oleraceus

NOTE: This recommendation does not preclude the use of Goal in these mixtures at higher, labeled rates for preemergence weed control.

# PERENNIAL GRASS SUPPRESSION ORCHARD FLOORS

When applied as directed, this product will suppress vegetative growth as indicated below.

#### **Bahiagrass**

This product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with a single application and approximately 120 days with sequential applications. Apply this product 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus nonionic surfactant may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces may be made approximately 45 days after the last application.

#### Bermudagrass

For burndown, apply 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre. Use I quart of this product in 3 to 20 gallons of water per acre east of the Rocky Mountains. Use 1 to 2 quarts of this product in 3 to 10 gallons of water per acre west of the Rocky Mountains. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

Suppression only (east of the Rocky Mountains)—Apply 6 to 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Rates of 6 to 10 fluid ounces of this product plus nonionic surfactant should be used in shaded conditions

40\_\_\_

or where a lesser degree of suppression is desired. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

Suppression only (west of the Rocky Mountains)—Apply 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre up to 6 inches in height and no sooner than 1 to 2 weeks after full greenup. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

#### Cool Season Grass Covers

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. For best suppression, add ammonium sulfate to the spray solution at a rate of 2 percent by weight or 17 pounds per 100 gallons of spray solution.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant. Do not add ammonium sulfate.

For best results, mow cool-season grass covers in the spring to even their height and apply the recommended rate of this product 3 to 4 days after mowing. Avoid treating cool season grass covers under poor growing conditions, such as drought stress (drip irrigation), disease or insect damage.

#### LOW VOLUME APPLICATION (FLORIDA AND TEXAS)

For burndown or control of the weeds listed, apply the recommended rates of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

# Annual Weeds

Goatweed—Apply 2 to 3 quarts per acre of this product plus 17 pounds of ammonium sulfate per 100 gallons of water plus 0.5 to 1 percent nonionic surfactant by total spray volume. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches. If goatweed is greater than 8 inches, the addition of Krovar II or Karmex may improve control. Use labeled rates for these residual products.

Read and carefully observe the label claims, cautionary statements, rates and all other information on the Krovar II and Karmex labels

#### Perennial Weeds

Apply when weeds are actively growing and at the growth stages listed in the "Perennial Weeds Controlled" section of this label. If perennial weeds are mowed, allow weeds to regrow to the recommended stage of growth.

| S = Suppression<br>PC = Partial control | B = Burndown<br>C = Control |       |       |       |  |
|---|-----------------------------|-------|-------|-------|--|
| WEED                                    | ROUNDUP RATE PER A          |       |       |       |  |
| SPECIES                                 | 1 qt                        | 2 qts | 3 qts | 5 qts |  |
| Bermudagrass                            | В                           | •     | PC    | С     |  |
| Guineagrass                             |                             |       |       |       |  |
| Texas and Florida Ridge                 | В                           | С     | C     | С     |  |
| Florida Flatwoods                       | •                           | В     | С     | С     |  |
| Paragrass                               | В                           | С     | C     | С     |  |
| Torpedograss                            | S                           | •     | PC    | С     |  |

## TREE CROPS

Citrus\*: citron, grapefruit, kumquat, lemon, lime, orange, pummelo, tangelo, tangerine, tangors.

Nuts\*\*: almond, chestnuts, filbert, macadamia, pecan, pistachio, walnut.

Pome Fruit\*: apple, pear.

Stone Fruit\*\*\*: apricots, cherries, nectarines, olives, peaches, plums/prunes.

For cherries, any application equipment listed in this section may be used in all states.

For citron and olives, apply as a directed spray only.

Any application equipment listed in this section may be used in apricots, nectarines, peaches, and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah, and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only. For PEACHES grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees which have been planted in the orchard for 2 or more years. EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.

Tropical Fruit: acerola, atemoya\*, avocado\*, banana (plantains), breadfruit\*, canistel\*, carambota\*, coffee\*\*\*\*, dates\*, figs\*, guava, jaboticaba\*, jackfruit\*, longan\*, lychee\*, mango\*, papaya, passion fruit\*, persimmons\*, sapodilla, sapote, soursop, sugar apple\*, tamarind\*, tea. Allow a minimum of 1 day between last application and harvest of guava and papaya. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

#### NOTE-

- \*Allow a minimum of 14 days between last application and harvest.
- \*\*Allow a minimum of 21 days between last application and harvest of these crops.
- \*\*\*Allow a minimum of 17 days between last application and harvest.
- \*\*\*\*Allow a minimum of 28 days between last application and harvest.

## VINE CROPS

#### Kiwi Fruit\*

Grapes:\* Any variety of table, wine, or raisin grape may be treated with any equipment listed in this section

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury.

- \* Applications should not be made when green shoots, canes, or foliage are in the spray zone.
- \*Allow a minimum of 14 days between last application and harvest.

# **CALIFORNIA**

This product has been approved by the U.S. Environmental Protection Agency and by the state of California for the uses, crops and sites listed in this label. With the exception of these items, this booklet contains the material approved by California.

These use conditions, crops and sites may not be treated with this product in California until approval is received:

- · Cool season turf growth regulation.
- · Escort tank mixtures.

This product is protected by U.S. Pat. No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

This product has been approved for use in California except as stated otherwise on page 87.

EPA Reg. No. 524-445

898.07-000.27/53

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

© MONSANTO COMPANY 1993

MONSANTO COMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOURI, 63167 U.S.A. This product is protected by U.S. Pat. No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

This product has been approved for use in California except as stated otherwise on page 87.

EPA Reg. No. 524-445

898.07-000.27/53

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

© MONSANTO COMPANY 1993

MONSANTO COMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOURI, 63167 U.S.A. Based on Danne with

OT REVIEWE

ED .....

146

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

June 24, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor

Product Manager (25)

Subject: Roundup® Herbicide (EPA Reg. No. 524-445)

**Submission of Final Printed Labels:** 

Supplemental Label for Preharvest Applications in Wheat

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows applications prior to the harvest of wheat, was approved by the Agency on June 17, 1993.

Enclosed are five (5) copies of the label (version MAP-3519-5/21/93).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Registration Manager

Shila a. Schuette

(314) 694-7248

EPA Form 8570-1 (Rev. 12-90)

Sheila A. Schuette

Previous editions are obsolete.

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling:

5. Three copies of any data submitted; 6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.

2. Type of Retail Container. Indicate type of container in which product will be marketed.

3. Location of Met Contents - Specify the net contents of all retail containers for your product.

4. Size(s) of Retail Container. Specify the net contents of all retail containers for your product.

Location of use Directions - Indicate the location of the use directions for your product.
 Manner in which tabel is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. 1-5. Self-explanatory.

6. EPA Use Only.

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

Roundup Herbicide by Monsanto

In Accordance with PR Notice 82-2.

EPA Reg. No. 524-445

# FOR PREHARVEST APPLICATIONS IN WHEAT

Keep out of reach of children.

# WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

\*Roundup is a registered trademark of Monsanto Company.

### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICA-TION INSTRUCTIONS" sections of the label booklet for Roundup herbicide for essential product performance information.

#### RECOMMENDATIONS

This product controls annual and perennial weeds listed on this label prior to the harvest of wheat. Make applications after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for ground and aerial applications.

For control of quackgrass or suppression of Canada thistle, apply 1 quart of this product plus 0.5% nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

For suppression of field bindweed, apply 1 to 2 pints of this product plus 0.5 to 1.0 pounds active ingredient of 2,4-D plus 0.5% nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PROD-UCT FOR PREHARVEST APPLICA-TIONS. For specific rates of application and instructions for control of other annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

NOTE: It is not recommended that wheat grown for seed be treated because a reduction in germination or vigor may occur.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

MAP 3519-5/21/93



MONSANTO COMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOUPI 63167



# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

June 22, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup<sup>®</sup> Herbicide (EPA Reg. No. 524-445) Submit Final Printed Supplemental Label

Dear Sir:

The supplemental label for Roundup Herbicide to allow tank mixing Roundup with Arsenal Applicators Concentrate for forestry conifer release in the States of Maine, New Hampshire and Vermont was approved on April 1, 1993. Attached are five (5) copies of the final printed label.

If you have any questions regarding this submission, please contact Dr. Russell Schneider at our Washington office or me at 314-694-2124.

Sincerely,

Lydia A. Suba

Registration Manager

cc: R.P. Schneider D.M. Fee-White D.A. Humphrey

|   | on reverse before comple                                    | ting form.  | Form Ap   | proved.               | OMB No. 2  | 070-0060.      | Approval expires 11-30-93                    |
|---|---|---|---|-----------------------|--|----------------|--|
| (A) SEP   | United States Env<br>Office of Pes<br>Wash<br>Applica       | vironmental Prote-<br>ticide Programs (I<br>ington, DC 2046<br>ation for Pe   | ction Agency<br>H7505C)                         |                       | Registra<br>Amenda<br>Other  | ation          | 185016                                       |
|   | Red In the state  | Section I   | A WIND TO SHE                                   | 8 - 3                 | The section  | LEE VITUE      | THE RESERVE                                  |
| Company/Product Number  | 524-445   |   | 2. EPA Product Ma<br>Robert J.                  | DAYSMENT SERVE        | or   | 3. Proj        | posed Classification                         |
| 4. Company/Product (Name  |   | A POST DE   | PM#   | Men A                 | and the  | X              | None Restricted                              |
| Roune   | dup® Herbicide  |   | 25  |                       |  | The state of   |  |
| Washington, D   | any<br>et, N.W., Suite 1                                    | 100   |   |                       |  |                | IFRA Section 3(c)(3) apposition and labeling |
|   |   | Castlen II  | Product Name_                                   |                       |  |                |  |
|   |   | Section I I   |   |                       |  |                | THE RESERVE AND ASSESSMENT                   |
| Amendment - Explain b   | elow  |   | X Final printed Agency lette                    |                       |  | 4/             | 1/93   |
| Resubmission in respon  | nse to Agency letter dated_                                 |   | "Me Too" Ap                                     | plication             |  |                |  |
| Notification - Explain be   | alow.   |   | Other - expla                                   | Semesting.            |  |                |  |
| 1. Natarial This Product W  | All De Dookered In  | Section III   |   |                       |  |                |  |
| Material This Product W     Child-Resistant Packaging                                 | Unit Packaged In:   | I Water   | Soluble Packaging                               | 100                   | 2. Type of 0   | Container      | NAME OF BUILDING TO                          |
| Yes*  | Yes   |   | es es   | BILL                  | z. Type of   | Metal          |  |
| X   |   | 77  |   | -prisis               |  | Plastic        |  |
| No No   | No  | X   |   | 3.0                   |  | Glass<br>Paper |  |
| * Certification must be   |   | ntainer If "Yes,<br>Packag  |   | per<br>tainer         |  | Other (Spe     | cify)  |
| submitted.  | Information I Sin   | (-)(-) C  | atala sa  | 15.10                 | ocation of La  | hal Direction  |  |
| 3. Location of Net Contents  Label Contents   | ontainer 4. 512   | te(s) of Retail Co  | ntainer   |                       | On Label   |                | anying product                               |
| 6. Manner In Which Label Is   |   | Lithograph<br>Paper glued<br>Stenciled  | Oth   | er (                  | 3 OII Labell   | ng accompa     | arying product                               |
| MARCH NAME OF TAXABLE   | mik be to stand   | Section IV  |   |                       |  | Maria Regi     |  |
|   | items directly below for idea                               | -   |   | -                     | The state of the s |                |  |
| Dr. Russell P   | . Schneider   | THE RESERVE TO SERVE THE PARTY OF THE PARTY | ricultural Re<br>rector                         | egula                 | tion   | - HOLLING HOLL | No. (Include Area Code)                      |
| I certify that the statement<br>I acknowledge that any k<br>both under applicable law | ts I have made on this form<br>nowingly false or misleading | fication<br>and all attachmen<br>g statement may  | its thereto are true, a<br>be punishable by fin | accurate<br>ne or imp | and comple<br>prisonment o   | 6.             | Date Application<br>Received<br>(Stamped)    |
|   | d for   |   | gistration Ma                                   | anage                 | r  | :              |  |
| 4. Typed Name   | Cuba  | 5. Date   | 1 1   | 2.2                   |  | STATE OF       |  |

Lydia A. Suba

6/22/93

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted;

6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Mumber.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing

address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.

 Type of Retail Container - Indicate type of container in which product will be marketed.

- 3. Location of Net Contents . Specify the net contents of all retail containers for your product. 4. Size(s) of Retail Container - Specify the net contents of all retail containers for your product.
  5. Location of Use Directions - Indicate the location of the use directions for your product.
  6. Manner in which label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV. (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. 1-5. Self-explanatory.
6. EPA Use Dnly.

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE AND ARSENAL™ APPLICATORS CONCENTRATE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Labels" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, Arsenal Applicators Concentrate and this supplement.



NOT REVIEWED
In Accordance with PR Notice 82-2
Based on Draft Labeling Dated

EPA Reg. No. 524-445

TANK MIXTURE OF ROUNDUP HERBICIDE AND ARSENAL APPLICATORS CONCENTRATE FOR FORESTRY CONIFER RELEASE IN THE STATES OF MAINE, NEW HAMPSHIRE AND VERMONT.

Keep out of reach of children.

## **WARNING!**

In case of an emergency involving this product, call Collect, day or night, (314) 694-4000.

### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

Apply a mixture of 2 quarts of this product and 1 to 2.5 fluid ounces of Arsenal Applicators Concentrate per acre as a release treatment for balsam fir and red spruce.

This mixture is recommended for controlling woody brush, deciduous trees and herbaceous weeds on sites regenerated with balsam fir and red spruce. Make applications only after formation of final resting buds on these conifers.

Use the higher recommended rate for sites with dense, tough-to-control woody brush and deciduous trees.

When using ground application equipment, use 10 to 60 gallons of spray solution per acre. For aerial application (helicopter only), use 5 to 15 gallons of spray solution per acre.

Injury may occur to conifers treated for release, especially where spray patterns overlap. Injury can be accentuated if applications are made when conifers are actively growing or are under stress. Read and carefully observe the label claims, cautionary statements, and all information on the label for all products used.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

MONSANTO COMPANY 1993

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

MAP-3515-4/29/93

<sup>\*</sup>Roundup is a registered trademark of Monsanto Company.

<sup>™</sup>Arsenal is a trademark of American Cyanamid Company.

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

June 8, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor

Product Manager (25)

Subject: Roundup<sup>®</sup> Herbicide (EPA Reg. No. 524-445)

**Submission of Final Printed Labels:** 

Supplemental Label for Pre-emergence Use in Sugarcane

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows applications for weed control prior to the emergence of sugarcane, was approved by the Agency on May 26, 1993.

Enclosed are five (5) copies of the label (version MAP-3454-1/30/93).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

TELEPHONE: (202) 783-2460

FACSIMILE: (202) 783-2468

Sincerely,

155

cc: R.P. Schneider L.L. Gingerich D.M. Fee-White

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PRO-CEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



MOT REVIEWED

To Accordance with PR Notice 82-2.

Based on Draft Labeling Dated

5/29/93

EPA Reg. No. 524-445

# FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

Keep out of reach of children. WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

\*Roundup is a registered trademark of Monsanto Company.

### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

#### RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.



READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PRO-CEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



EPA Reg. No. 524-445

### FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

# Keep out of reach of children. WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

\*Roundup is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

#### RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.



READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PRO-CEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



EPA Reg. No. 524-445

### FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

Keep out of reach of children. WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

\*Roundup is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

#### RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.



READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PRO-CEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



EPA Reg. No. 524-445

# FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

Keep out of reach of children. WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

\*Roundup is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

#### RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© MONSANTO COMPANY 1992

MONSANTO GOMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOURI 63167

MAP-3454-1/30/93

160

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PRO-CEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



EPA Reg. No. 524-445

### FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

# Keep out of reach of children. WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

\*Roundup is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

#### RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© MONSANTO COMPANY 1992

MONSANTO OOMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOURI 63167 MAP-3454-1/30/93

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PRO-CEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



EPA Reg. No. 524-445

### FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

# Keep out of reach of children. WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

\*Roundup is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

#### RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© MONSANTO COMPANY 1992

MONSANTO COMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MIGSOURI 63167

MAP-3454-1/30/93

162

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PRO-CEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



EPA Reg. No. 524-445

### FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

# Keep out of reach of children. WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

\*Roundup is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

#### RECOMMENDATIONS

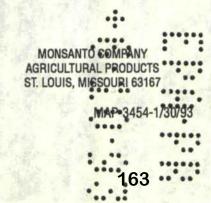
This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.





United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460

# Registration Amendment

185017

**OPP Identifier Number** 

| the first of the State of the S | Section  | on I                    | and allegan   | GLEVEL BY          |             | Total Ave                    |  |
|--|--|-------------------------|---|--------------------|-------------|------------------------------|--|
| Monsanto / 524-445   | 1 (FR - 1 - F - 8)   | The second second       | PA Product Manager<br>ert J. Taylor                 |                    | 3. 1        | Proposed CI                  | assification   |
| . Company/Product (Name)   |  | PM#                     | Charles and the second                              |                    | 7           | None [                       | Restricted   |
| Roundup Herbicide  |  | 25                      |   |                    | 18          | 10 1 1 1 1                   | PLANTE.  |
| 5. Name and Address of Applicant (Include ZIP Company 700 14th Street, N.W., #1100 Washington, D.C. 20005  | ode)   | (b)(i<br>to:            | Expedited Review. i), my product is sim A Reg. No   |                    |             |                              |  |
|  | Section  |                         | duct Name   |                    |             |                              | 35.36.7  |
|  | Section  |                         | Tipol edated laborate                               | o tocot            | to          | Telephone Control            | 4 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  |
| Amendment - Explain below  |  | X                       | Final printed labels i<br>Agency letter dated       |                    | May         | 26, 199                      | 3  |
| Resubmission in response to Agency letter of   | lated  |                         | "Me Too" Application                                |                    | 7 5 4       |                              | TO A LES   |
| Notification - Explain below.  |  | 10 15                   | Other - explain below                               | w.                 |             |                              |  |
| Explanation: Use additional page(s) if necessa   | ry. (For section I ar  | nd Section              | II.)  | 1 3/19             | 19914       | And In                       | F WAR  |
| . Material This Product Will Be Packaged In:   | Section I  | III                     |   |                    | 100         |                              | of the firms   |
| Child-Resistant Packaging   Unit Packaging   | . W  | ater Solub              | le Packaging  | 2. Type of         | Containe    | r                            |  |
| Yes* Yes   | Г  | Yes                     |   |                    | Metal       |                              |  |
|  |  | X No                    | Contract of the second                              | X                  | Plastic     |                              |  |
| No If "Yes."   | _  | Yes,"                   | No. per   |                    | Paper       | de la lach                   |  |
| Certification must be Unit Package wgt.  |  | ackage wg               |   |                    | Other (S    | Specify)                     | 1000   |
| submitted. 3. Location of Net Contents Information   | 4. Size(s) of Reta   | il Containe             | er 5. Lo  | cation of L        |             | ctions                       | 2/ 5 3   |
| Label X Container  | various  |                         | X   | On Labe            |             | mpanying pr                  | oduct  |
| 6. Manner In Which Label Is Affixed To Product   | Lithograph<br>Paper glue   |                         | X Other (   | vinyl g            | lued        |                              |  |
|  | Section  | ıV                      |   |                    | dyre.       | US DE A                      | 10   |
| 1. Contact Point (Complete items directly below for  |  |                         | to be contacted, if nece                            | ssary, to p        |             |                              | THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWIND TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN |
| Name   | Title  |                         | uwal Bassilat                                       |                    | Telepho     | ne No. (Incl                 | ude Area Code  |
| Dr. Russell P. Schneider   | THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.   | rector                  | ural Regulatio                                      | on                 | (202)       | 783-24                       | 60   |
| I certify that the statements I have made on this I acknowledge that any knowingly false or misl both under applicable law.  | Certification<br>form and all attach<br>leading statement r  | nments the<br>may be pu | ereto are true, accurate<br>nishable by fine or imp | and comporisonment | lete.<br>or | 6. Date A<br>Receive<br>(Sta | Company of the Compan |
| AND ADDRESS OF THE PARTY OF THE | 3. Tit   | tle                     |   | 182                | 1           | 2000                         |  |
| 2. Signature   | The second secon | Registration Manager    |   |                    |             | :                            |  |
| 2. Signature Shula Abole 18  | Reg  | gistra                  | tion Manager  |                    |             | 100                          |  |
| Shula a Schuell  | Reg  |                         | tion Manager  |                    |             | 13.00                        |  |
| 7 / 7  | La Company   | ate                     | tion Manager  | 2                  |             |                              | 164  |

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4); 3. Formulator's Exemption Statement (EPA Form 8570-27):

4. Five copies of draft labeling;

5. Three copies of any data submitted; 6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections 1, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Mumber.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing

address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be

similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

 Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach

a separate page if additional space is needed.

SECTION.III (Packaging and Container Information) - This Section must be completed for all applications submitted if connection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.

- Type of Retail Container Indicate type of container in which product will be marketed.
- Location of Net Contents Specify the net contents of all retail containers for your product. 4. Size(s) of Betail Container - Specify the net contents of all retail containers for your product.

  5. Location of Use Directions - Indicate the location of the use directions for your product.

- • 6. Manner in which label is affixed to product Indicate the method product label is attached to retail container.
- SECTION 'IV (Contact Point) This Section must be completed for all applications for Registration actions, i.e., "ew.products registration, resubmission, "me-too," reregistration, etc.
  - 1-5. Self explanatory.
    6. EPA was Only.

JUN | 7 1993

Dr. Sheila A. Schuette Monsanto Company The Agricultural Group 700 14th Street, N.W. Suite #1100 Washington, D. C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Add Pre-Harvest To Wheat) EPA Registration No. 524-445 Your Application Dated May 7, 1993

The amendmet referred to above, submitted in connection with registration under FIFRA sec. 3(C)(7)(A), is acceptable provided that you:

- 1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.
- Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

The accceptance of your label does not relieve you of any obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR Part 156, subpart K, 200 (c)(3), you are prohibited from distributing or selling any product within the scope of WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely,

Robert J. Taylor
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

ACCEPTED with COMMENTS in EPA Letter Dated:

### **ROUNDUP®**

Herbicide by Monsanto

JUN 17 1993

EPA Reg. No. 524-445

Under the Federal Insecticide, Fungicide, and Rodenticide Act

as amended, for the pesticide

524-445

registered under EPA Reg. No. FOR PREHARVEST APPLICATIONS IN WHEAT

Keep out of reach of children.

### WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

•Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup herbicide for essential product performance information.

#### RECOMMENDATIONS

This product controls annual and perennial weeds listed on this label prior to the harvest of wheat. Make applications after the hard-douogh. Stage of grain (30% or less grain moisture) and at least 7 days praior to harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for ground and aerial applications.

For control of quackgrass or suppression of Canada thistle, apply 1 quart of this product plus 0.5% nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

For suppression of field bindweed, apply 1 to 2 pints of this product plus 0.5 to 1.0 pounds active ingredient of 2,4-D plus 0.5 % nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS.

For specific rates of application and instructions for control of other annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

NOTE: It is not recommended that wheat grown for seed be treated because a reduction in germination or vigor may occur.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

•Monsanto Company 1992

MAP

MONSANTO COMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOURI 63167

|  | on reverse before completing for   | T.OIIII.75                             | pproved. OMB No. 2                         | 070-0060. Approval expires11-30-93                              |
|--|--|--|--|---|
| (A) SEP  | United States Environment Office of Pesticide Previous Washington, Application | rograms (H7505C)                       | X Amendr Other                             |   |
| CONTRACTOR OF THE CO   | Se   | ection I                               |  |   |
| 1. Company/Product Numb  |  | 2. EPA Product N                       | Manager                                    | 3. Proposed Classification                                      |
| CHICAGO .  | 524-445  | Robert                                 | J. Taylor                                  |   |
| Company/Product (Name  | Roundup Herbicio   | de PM# 25                              | 1 1 20 CM                                  | X None Restricted   |
| Monsanto Com<br>The Agriculti<br>700 14th Stru<br>Washington Di<br>Check if this     | pany<br>ural Group   |  |  | nce with FIFRA Section 3(c)(3) ical in composition and labeling |
| REAL PROPERTY.   | Sec  | ction I I                              | TOP SHOULD                                 |   |
| X Amendment - Explain t  |  |  | d labels in response to                    | 0   |
| Resubmission in respo  | onse to Agency letter dated  | PERMIT                                 |  |   |
| Notification - Explain be  | elow.  | "Me Too" A<br>Other - exp              |  |   |
| Material This Product V  |  | Ion III                                | Way Associate                              |   |
| Child-Resistant Packaging  | Unit Packaging   | Water Soluble Packaging                | 2. Type of C                               | Container   |
| Yes*   | Yes X No   | Yes                                    | X  | Metal<br>Plastic<br>Glass                                       |
| * Certification must be  | If "Yes," No. per Unit Package wgt. No. per container                          | If "Yes," No                           |  | Paper<br>Other (Specify)  |
| submitted.   | 1 0 11   | 0.30                                   | 5. Location of Lat                         | nal Directions  |
| Location of Net Contents   |  | Retail Container                       | On Label                                   | Jet Directions  |
|  |  | rious                                  |  | ng accompanying product   |
| Manner In Which Label Is   |  | rglued                                 | ther( vinyl gl                             | lued  |
| 3-14 MIT 400   |  | ction IV                               | THE PERSON                                 |   |
|  | items directly below for identificatio   |  |  |   |
| Russell P.   | . Schneider  | Title<br>Agricultural Regu<br>Director | lation                                     | Telephone No. (Include Area Code)                               |
|  | Certificatio   | n                                      | A. 175 A. W. S.                            | 6. Date Application   |
| I certify that the statemen<br>I acknowledge that any k<br>both under applicable law | its I have made on this form and all a<br>knowingly false or misleading statem | attachments thereto are true,          | accurate and comple<br>ine or imprisonment | Received  |
| 2. Signature   | MARKET THE RELEASE   | 3. Title                               | THE REAL PROPERTY.                         |   |
|  | Schuette   | Registration Mana                      | iger                                       |   |
| 4. Typed Name  |  | 5. Date                                |  |   |

Sheila A. Schuette

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling:

5. Three copies of any data submitted; 6. Authorization letter where applicable:

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
   Proposed Classification Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

 Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief
explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in correction with was registration or applicable amendments.

1. Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.

Indicate the size of the individual packets and number per retail container.

2. Type of Retail Container of Indicate type of container in which product will be marketed.

3. Location of Net Contents - Specify the net contents of all retail containers for your product.

4. Size(s) of Retail Container - Specify the net contents of all retail containers for your product.

5. Location of Use directions - Indicate the location of the use directions for your product.

6. Manner in whith label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV. (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. 1-5. Self-explanatory.

6. EPA Use Only.



#### United States Environmental Protection Agency Washington, DC 20460

#### CERTIFICATION WITH RESPECT TO DATA COMPENSATION REQUIREMENTS

Form Approved

OMB No. 2070-0108

Approval Expires 12-31-92

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestion for reducing this burden, to Chief, information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, DC 20460; and to the Office of Management and Budget, Paperwork Reduction Project (2070-0106), Washington, DC 20503.

|  | P | lease | fill In | blanka | below. |
|--|---|-------|---------|--------|--------|
|--|---|-------|---------|--------|--------|

| Company Name       | Company Number      |
|--------------------|---------------------|
| Monsanto Company   | 524 - 445           |
| Chemical Name      | EPA Chemical Number |
| ROUNDUP HERBICIDES |                     |

#### I Certify that:

- 1. For each study cited in support of registration or reregistration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) that is an exclusive use study, I am the original data submitter, or I have obtained the written permission of the original data submitter to cite that study.
- 2. That for each study cited in support of registration or reregistration under FIFRA that is NOT an exclusive use study, I am the original data submitter, or I have obtained the written permission of the original data submitter, or I have notified in writing the company(ies) that submitted data I have cited and have offered to: (a) Pay compensation for those data in accordance with sections 3(c)(1)(D) and 3(c)(2)(D) of FIFRA; and (b) Commence negotiation to determine which data are subject to the compensation requirement of FIFRA and the amount of compensation due, If any. The companies I have notified are: (check one)
  - [ ] All companies on the data submitters list for the active ingredient listed on this form (Cite-All Method or Cite-All Option under the Selective Method). (Also sign the General Offer to Pay below.)
  - The companies who have submitted the studies listed on the back of this form or attached sheets, or indicated on the attached "Requirements Status and Registrants' Response Form,"
- 3. That I have previously complied with section 3(c)(1)(D) of FIFRA for the studies I have cited in support of registration or reregistration under FIFRA.

| Signature )                           | Date   |
|---------------------------------------|--------|
| · Lus draisa                          | 5/7/93 |
| Name and Title (Please Type or Print) |        |
| Russell P. Schneider                  |        |

GENERAL OFFER TO PAY: I hereby offer and agree to pay compensation to other persons, with regard to the registration or reregistration of my products, to the extent required by FIFRA sections 3(c)(1)(D) and 3(c)(2)(D).

| Signature  | Date                    |
|--|-------------------------|
| Lus orreisa  | 5/7/93                  |
| Name and Title (Please Type or Print) Russell P. Schneider | As. Regulation Director |

# Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

May 7, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup® Herbicide (EPA Reg. No. 524-445)

Supplemental Label for Preharvest Applications in Wheat

EPA Pesticide Petition No. 0F3865 EPA Food Additive Petition No. 2H5635

Dear Sir:

On February 28, 1992, Monsanto submitted a proposed label booklet for Roundup Herbicide that contained a revised section for applications made preharvest to wheat. The proposed tolerances necessary to obtain this use were published recently (May 5, 1993 / 58 FR 26725) and we expect that the tolerances will be established on June 4, 1993. Since the harvest of wheat will begin shortly thereafter, we will not have sufficient time to produce a complete label booklet with the new use. Therefore, we are submitting five (5) copies of a supplemental label for Agency review and approval.

Monsanto requests that the Agency approve and stamp the enclosed supplemental label so that it becomes effective as soon as the necessary tolerances on wheat grain, wheat straw and wheat milling fractions (except flour) are established. If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

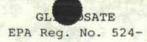
Sheila A. Schuette, Ph.D. Registration Manager

(314) 694-7248

#### SECTION III

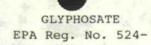
GLYPHOSATE 40 CFR, PART 158 DATA LIST





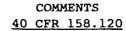


| 40 00 | n 150 120  | Dama          | EPA                 | CUDALCCION | DOGUMENT  |           |                 |
|-------|--|---------------|---------------------|------------|-----------|-----------|-----------------|
|       | R 158.120  | DATA<br>REO'D | REFERENCE           | SUBMISSION | DOCUMENT  | OLINDO    | NUMBER          |
| -     | DESCRIPTION CT IDENTITY:                               | REQ D         | NUMBER              | DATE       | NUMBER    | OWNER     | AUTHORIZATIO    |
|       |  |               |                     |            |           |           |                 |
| 61-1  | PRODUCT IDENTITY & DISCLOSURE                          |               | 262705              | 06/20/06   |           | Walana    |                 |
| 61 1  | OF INGREDIENTS (MP)                                    | -             | 263795              | 06/30/86   |           | Monsanto  | The same of the |
| 01-1  | PRODUCT IDENTITY & DISCLOSURE                          | III 47 10 1   |                     | 11/15/89   | P. D. 064 | Managanta |                 |
| 61-2  | OF INGREDIENTS (EP) DESCRIPTION OF BEGINNING MATERIALS |               |                     | 11/13/09   | R.D. 964  | Monsanto  |                 |
| 01-2  | AND MANUFACTURING PROCESS (MP)                         | +             | 263795              | 06/30/86   |           | Monsanto  |                 |
| 61-2  | DESCRIPTION OF BEGINNING MATERIALS                     | 100           | 203793              | 00/30/00   |           | Monsanco  |                 |
| 01-2  | AND MANUFACTURING PROCESS (EP)                         |               |                     | 11/15/89   | R.D. 964  | Monsanto  |                 |
| 61-2  | DISCUSSION OF FORMATION                                | 200           |                     | 11/13/03   | K.D. 304  | Hombanco  |                 |
| -     | OF IMPURITIES (MP)                                     | + 1           | 096177              | 06/01/76   |           | Monsanto  |                 |
| 61-3  | DISCUSSION OF FORMATION                                |               | E. JES              | 00/02/10   |           | Hombanco  |                 |
|       | OF IMPURITIES (EP)                                     | ++            |                     | 11/15/89   | R.D. 964  | Monsanto  |                 |
| ANALY | SIS AND CERTIFICATION OF PRODUCT INGRE                 | DIENTS:       |                     |            |           |           |                 |
| 62-1  | PRELIMINARY ANALYSIS (MP)                              | 17            | 096177              | 06/01/76   |           | Monsanto  |                 |
|       | PRELIMINARY ANALYSIS (EP)                              | +             | AND WATER OF STREET | 11/15/89   | R.D. 964  | Monsanto  |                 |
|       | CERTIFICATION OF LIMITS (MP)                           | +             | 263795              | 06/30/86   |           | Monsanto  |                 |
|       | CERTIFICATION OF LIMITS (EP)                           | +             |                     | 11/15/89   | R.D. 964  | Monsanto  |                 |
| 62-3  | ANALYTICAL METHODS FOR                                 |               |                     |            |           |           |                 |
|       | ENFORCEMENT OF LIMITS (MP)                             | +             | 263795              | 06/30/86   |           | Monsanto  |                 |
| 62-3  | ANALYTICAL METHODS FOR                                 |               |                     |            |           |           |                 |
|       | ENFORCEMENT OF LIMITS (EP)                             | +             |                     | 11/15/89   | R.D. 964  | Monsanto  |                 |
| PHYSI | CAL AND CHEMICAL CHARACTERISTICS:                      |               |                     |            |           |           |                 |
| 63-2  | COLOR (MP & TGAI)                                      | +             | 263795              | 06/30/86   |           | Monsanto  |                 |
| 63-2  | COLOR (EP)   | +             |                     | 11/15/89   | R.D. 964  | Monsanto  |                 |
|       | PHYSICAL STATE (MP & TGAI)                             | +             | 263795              | 06/30/86   |           | Monsanto  |                 |
| 63-3  | PHYSICAL STATE (EP)                                    | +             |                     | 11/15/89   | R.D. 964  | Monsanto  |                 |
| 63-4  | ODOR (MP & TGAI)                                       | +             | 263795              | 06/30/86   |           | Monsanto  |                 |
| 63-4  | ODOR (EP)  | + - Y-        |                     | 11/15/89   | R.D. 964  | Monsanto  |                 |
| 63-5  | MELTING POINT (TGAI)                                   | +             | 096177              | 06/01/76   |           | Monsanto  |                 |
| 63-6  | BOILING POINT (TGAI)                                   | NR            |                     |            |           |           |                 |
| 63-7  | DENSITY, BULK DENSITY,                                 |               |                     |            |           |           |                 |
|       | OR SPECIFIC GRAVITY (MP & TGAI)                        | +             | 263795              | 06/30/86   |           | Monsanto  |                 |
| 63-7  | DENSITY, BULK DENSITY, OR SPECIFIC GR                  | AVITY (EP     | )                   | 11/15/89   | R.D. 964  | Monsanto  |                 |



| 40 CFF | 158.120                                | DATA  | EPA<br>REFERENCE | SUBMISSION | DOCUMENT |          |               |
|--------|--|-------|------------------|------------|----------|----------|---------------|
| STUDY  | DESCRIPTION                            | REQ'D | NUMBER           | DATE       | NUMBER   | OWNER    | AUTHORIZATION |
|        |  |       |                  |            |          |          |               |
| PHYSIC | AL AND CHEMICAL CHARACTERISTICS (cont' | d)    |                  |            |          |          | of year than  |
| 63-8   | SOLUBILITY (TGAI OR PAI)               | +     | 234109           | 06/05/78   |          | Monsanto |               |
| 63-9   | VAPOR PRESSURE (TGAI OR PAI)           | +     | 234109           | 06/05/78   |          | Monsanto |               |
| 63-10  | DISSOCIATION CONSTANT (TGAI OR PAI)    | +     | 231886           | 09/16/77   |          | Monsanto |               |
| 63-11  | OCTANOL/WATER PARTITION                |       |                  |            |          |          |               |
|        | COEFFICIENT (PAI)                      | +     | 234109           | 06/05/78   |          | Monsanto |               |
| 63-12  | pH (MP & TGAI)                         | +     | 263795           | 06/30/86   |          | Monsanto |               |
| 63-12  | pH (EP)                                | +     |                  | 11/15/89   | R.D. 964 | Monsanto |               |
| 63-13  | STABILITY (TGAI)                       | +     | 263795           | 06/30/86   |          | Monsanto |               |
| 63-14  | OXIDIZING OR REDUCING                  |       |                  |            |          |          |               |
|        | ACTION (MP)                            | +     | 263795           | 06/30/86   |          | Monsanto |               |
| 63-14  | OXIDIZING OR REDUCING                  |       |                  |            |          |          |               |
|        | ACTION (EP)                            | +     |                  | 11/15/89   | R.D. 964 | Monsanto |               |
| 63-15  | FLAMMABILITY (MP)                      | +     | 263795           | 06/30/86   |          | Monsanto |               |
| 63-15  | FLAMMABILITY (EP)                      | +     |                  | 11/15/89   | R.D. 964 | Monsanto |               |
| 63-16  | EXPLODABILITY (MP)                     | NR    |                  |            |          |          |               |
| 63-16  | EXPLODABILITY (EP)                     | +     |                  | 11/15/89   | R.D. 964 | Monsanto |               |
| 63-17  | STORAGE STABILITY (MP)                 | +     | 254433           | 07/30/84   |          | Monsanto |               |
| 63-17  | STORAGE STABILITY (EP)                 | +     |                  | 11/15/89   | R.D. 964 | Monsanto |               |
| 63-18  | VISCOSITY (MP)                         | NR    |                  |            |          |          |               |
| 63-18  | VISCOSITY (EP)                         | +     |                  | 11/15/89   | R.D. 964 | Monsanto |               |
| 63-19  | MISCIBILITY (MP)                       | NR    |                  |            |          |          |               |
| 63-19  | MISCIBILITY (EP)                       | NR    |                  |            |          |          |               |
| 63-20  | CORROSION CHARACTERISTICS (MP)         | +     | 263795           | 06/30/86   |          | Monsanto |               |
| 63-20  | CORROSION CHARACTERISTICS (EP)         | +     |                  | 11/15/89   | R.D. 964 | Monsanto |               |
| 63-21  | DIELECTRIC BREAKDOWN                   |       |                  |            |          |          |               |
|        | VOLTAGE (EP)                           | NR    |                  |            |          |          |               |
| 64-1   | SUBMITTAL OF SAMPLES (PAI)             | +     |                  |            |          | Monsanto |               |

NR = Not Required - See Explanation Sheet



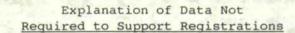
The data requirements for pesticide registration (40 CFR 158) was published in the Federal Register on October 24, 1984.

Shortly thereafter, Monsanto has been developing a new product chemistry section that will comply with the requirements as listed in Part 158. The final product chemistry data package was submitted on June 30, 1986, and assigned the accession number 263795 by the Agency.

Monsanto awaits review and analysis by the Agency.

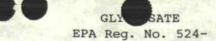
#### 63-17 Storage Stability (EP)

This Storage Stability data gap does not impact any risk/hazard assessment of the product, and it is specific to our formulation. Accelerated aging at 50° and 60°C was conducted with no loss in assay of MON-20047 observed. Monsanto will submit a 12 month real time storage stability study after the container of commerce is selected.



circumstance where it would be in contact with electric equipment.

| 40 CFR 158.120 Product Chemistry   |  |
|--|--|
|  |  |
|  |  |
| 63-6 Boiling Point (TGAI)  |  |
| To be believed to the control of the | Data is required only if the technical material is a liquid at room  |
|  | temperature. Glyphosate is a solid.  |
|  |  |
| 63-16  | Explodability (MP)   |
|  | Glyphosate is a modified amino acid, and amino acids as a class of chemicals   |
|  | are not considered to be explosive. Glyphosate is not explosive.   |
| 63-18  | Viscosity (MP)   |
|  | Data is required if the material is a liquid. Glyphosate is a solid.   |
|  |  |
| 63-19 Miscibility (MP)   |  |
|  | Data is required if the material is an emulsifiable liquid. Glyphosate is a  |
|  | water-soluble solid.   |
|  |  |
| 63-19 Miscibility (EP)   |  |
|  | Data is required if the product is an emulsifible liquid. MON-20047 is a   |
|  | ready-to-use liquid, not to be diluted.  |
|  |  |
| 63-21 Dielectric Breakdown Voltage (EP)  | Pata is required for limit products that are used around electrical  |
|  | Data is required for liquid products that are used around electrical equipment. When MON-20047 is applied as a herbicide there is virtually no |
|  | edurbment. when word-2004, is abbitted as a nerpictue chere is Aircraft ho   |



| 10 0  | n 150 125                               | DAME        | EPA       |  |          |                     |               |
|-------|---|-------------|-----------|--|----------|---------------------|---------------|
|       | R 158.135                               | DATA        | REFERENCE | SUBMISSION   | DOCUMENT | Company of the Park |               |
| STUDY | DESCRIPTION                             | REO'D       | NUMBER    | DATE   | NUMBER   | OWNER               | AUTHORIZATION |
|       |   |             |           |  |          |                     |               |
| ACUTE | TESTING:                                |             |           |  |          |                     |               |
| 81-1  | ORAL LD <sub>50</sub> - RAT (MP & TGAI) | +           | 241301    | 10/02/79   |          | Monsanto            |               |
| 81-1  | ORAL LD <sub>50</sub> - RAT (EP)        | +           |           | 11/15/89   | R.D. 964 | Monsanto            |               |
| 81-2  | DERMAL LD <sub>50</sub> (MP & TGAI)     | +           | 241301    | 10/02/79   |          | Monsanto            |               |
| 81-2  | DERMAL LD <sub>50</sub> (EP)            | +           |           | 11/15/89   | R.D. 964 | Monsanto            |               |
| 81-3  | INHALATION LC50 - RAT (MP & TGAI)       |             |           | 10/02/79   |          | Monsanto            |               |
| 81-3  |   | +           |           | 11/15/89   | R.D. 964 |                     |               |
| 81-4  | PRIMARY EYE IRRITATION - RABBIT (MP)    | +           | 241301    | 10/02/79   |          | Monsanto            |               |
| 81-4  | PRIMARY EYE IRRITATION - RABBIT (EP)    | +           |           | 11/15/89   | R.D. 964 | Monsanto            |               |
| 81-5  | PRIMARY DERMAL                          |             |           |  |          |                     |               |
|       | IRRITATION (MP)                         | + -         | 241301    | 11/15/89   | R.D. 964 | Monsanto            |               |
| 81-5  | PRIMARY DERMAL                          |             |           |  |          |                     |               |
|       | IRRITATION (EP)                         | +           |           | 11/30/88   |          | Monsanto            |               |
| 81-6  | DERMAL SENSITIZATION (MP)               | NR          |           | The state of the state of  |          |                     |               |
| 81-6  | DERMAL SENSITIZATION (EP)               | +           |           | 11/15/89   | R.D. 964 | Monsanto            |               |
| 81-7  | ACUTE DELAYED NEURO-TOXICITY -          |             |           | of the State of th |          |                     |               |
|       | HEN (TGAI)                              | NR          |           |  |          |                     |               |
|       |   |             |           |  |          |                     |               |
| SUBCH | RONIC TESTING:                          |             |           |  |          |                     |               |
| 82-1  | 90-DAY FEEDING - RODENT (TGAI)          | 1           | 242799    | 05/29/80   |          | Monsanto            |               |
| 82-1  |   | letter tell | 094161    | 07/12/74   |          |                     |               |
| 82-2  | 21-DAY DERMAL (TGAI)                    |             | 247188    | 03/22/82   |          | Monganto            |               |
| 82-2  |   | + +         |           |  |          | Monsanto            |               |
|       | 21-DAY DERMAL (EP)                      |             | 094176    | 07/12/74   |          | Monsanto            |               |
| 02-3  | 90-DAY DERMAL (TGAI)                    | NR          |           |  |          |                     |               |

NR

82-4 90-DAY INHALATION - RAT (TGAI)



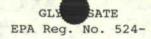




EPA

| 40 CFR 158.135<br>STUDY DESCRIPTION    | DATA<br>REO'D | REFERENCE<br>NUMBER | SUBMISSION<br>DATE | DOCUMENT<br>NUMBER        | OWNER               | AUTHORIZATION |
|--|---------------|---------------------|--------------------|---------------------------|---------------------|---------------|
|  | Z-XIII OVER   | - Halling La        |                    |                           | day and the same of |               |
| SUBCHRONIC TESTING (cont'd)            |               |                     |                    |                           |                     |               |
| 82-5 90-DAY NEUROTOXICITY -            |               |                     |                    |                           |                     |               |
| HEN (TGAI)                             | NR            |                     |                    |                           |                     | to be a       |
| 82-5 90-DAY NEUROTOXICITY -            |               |                     |                    | The state of the state of |                     |               |
| MAMMAL (TGAI)                          | NR            |                     |                    |                           |                     |               |
| CHRONIC TESTING:                       |               |                     |                    |                           |                     |               |
| 83-1 CHRONIC FEEDING -                 | +             | 246617 th           | ıru                |                           |                     |               |
| RODENT (TGAI)                          |               | 246621              | 01/07/82           |                           | Monsanto            |               |
| 83-1 CHRONIC FEEDING -                 |               |                     |                    |                           |                     |               |
| NONRODENT (TGAI)                       | +             | 094161              | 07/12/74           |                           | Monsanto            |               |
| 83-2 ONCOGENICITY STUDY -              | +             | 246617 th           | nru                |                           |                     |               |
| RAT (TGAI)                             |               | 246621              | 01/07/82           |                           | Monsanto            |               |
| 83-2 ONCOGENICITY STUDY -              |               | 251007 th           | iru                |                           |                     |               |
| MOUSE (TGAI)                           | +             | 251014              | 08/08/83           |                           | Monsanto            |               |
| 83-3 TERATOLOGY - SPECIES              |               |                     |                    |                           |                     |               |
| #1 (TGAI)                              | +             | 242516              | 05/13/80           |                           | Monsanto            |               |
| 83-3 TERATOLOGY - SPECIES              |               |                     |                    |                           |                     |               |
| #2 (TGAI)                              | +             | 242516              | 05/13/80           |                           | Monsanto            |               |
| 83-4 REPRODUCTION, 2-GENERATION (TGAI) | +             | 247793              | 07/31/81           |                           | Monsanto            |               |
| MUTAGENICITY TESTING:                  |               |                     |                    |                           |                     |               |
| 84-2 GENE MUTATION (TGAI)              | +             | 238233              | 04/20/79           |                           | Monsanto            |               |
|  |               | 251737 ar           |                    |                           |                     |               |
|  |               | 252487              | 11/04/83           |                           | Monsanto            |               |
|  |               |                     |                    |                           |                     |               |





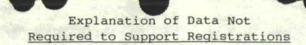


ORIZATION

| 40 CFR 158.135 STUDY DESCRIPTION   | DATA<br>REQ'D | REFERENCE<br>NUMBER   | SUBMISSION<br>DATE   | DOCUMENT<br>NUMBER | OWNER                | AUTHO |
|------------------------------------|---------------|-----------------------|----------------------|--------------------|----------------------|-------|
| MUTAGENICITY TESTING (cont'd)      |               |                       |                      |                    |                      |       |
| 84-2 CHROMOSOMAL ABERRATION (TGAI) |               | 242516<br>251737      | 05/13/80<br>11/04/83 |                    | Monsanto<br>Monsanto | 19-19 |
| 84-4 OTHER MECHANISMS OF           |               |                       |                      |                    | 2 3 3                |       |
| MUTAGENICITY (TGAI)                | - t           | 238233<br>251737      | 04/20/79             |                    | Monsanto<br>Monsanto |       |
| SPECIAL TESTING:                   |               |                       |                      |                    |                      |       |
| 85-1 GENERAL                       |               |                       |                      |                    |                      |       |
| METABOLISM (PAIRA)                 | +             | 093849<br>093851      | 11/12/73 11/12/73    |                    | Monsanto<br>Monsanto |       |
|                                    |               | 094166<br>40767101-02 | 07/12/74<br>08/11/88 |                    | Monsanto<br>Monsanto |       |
| 85-2 DERMAL PENETRATION            | NR            |                       |                      |                    |                      |       |
| SPECIAL REQUIREMENT:               |               |                       |                      |                    |                      |       |
| 86-1 DOMESTIC ANIMAL SAFETY        | NR            |                       |                      |                    |                      |       |

EPA

NR = Not Required - See Explanation Sheet



### 40 CFR 158.135 Hazard Evaluation: Humans and Domestic Animals

81-6

81-7

82-3

Acute Dermal Sensitization (MP)

Data is required if repeated contact with human skin is expected. Glyphosate is not used in a manner where such contact is likely.

Acute Delayed Neurotoxicity - Hen (TGAI)

Not required unless test material is an organophosphate, or a metabolite or degradation product which causes acetyl cholinesterase depression or is structurally related to a substance that causes delayed neurotoxicity. Glyphosate does not trigger this requirement.

Subchronic 90-Day Dermal (TGAI)

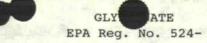
Data is required if use involves purposeful dermal application to, or prolonged exposure of, human skin; or if pesticidal use will involve purposeful application to the human skin or will result in comparable human exposure to the product (e.g., swimming pool algaecides, pesticides for impregnating clothing) and if either of the following criteria are met:

- i) Data from a subchronic oral study are not required; or
- ii) The active ingredient of the product is known or expected to be metabolized differently by the dermal route of exposure than by the oral route, and a metabolite of the active ingredient is the toxic moiety.

Glyphosate does not trigger this requirement.

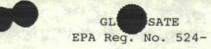
### Explanation of Data Not Required to Support Registrations

| 40 CFR 158.135 Hazard Evaluation: Humans and  Domestic Animals (continued) |   |
|--|---|
| 82-4   | Subchronic 90-Day Inhalation - Rat (TGAI) Data is required if the use may result in repeated inhalation exposure at concentration likelyto be toxic. A test with duration of 21 days is required if pesticide is used on tobacco. Glyphosate is not sufficiently toxic to warrant this testing. |
| 82-5   | Subchronic 90-Day Neurotoxicity - Hen (TGAI) Data is required if acute delayed neurotoxicity test showed neuropathy or neurotoxicity or if closely related structurally to a compound which can induce these effects. Glyphosate does not cause acute neurotoxicity.                            |
| 82-5   | Subchronic 90-Day Neurotoxicity - Mammal (TGAI) Data is required if acute oral, dermal or inhalation studies showed neuropathy or neurotoxicity. Glyphosate does not trigger this testing.  |
| 86-1   | Domestic Animal Safety Required on a case-by-case basis. The known properties of glyphosate and the registered uses have not warranted this testing.  |



| - 1 | m, 1 | 2 | m. |  |
|-----|------|---|----|--|
| - 2 | ٠.   | м | м  |  |

| 40 CFR 158.145                   | DATA                   | REFERENCE   | SUBMISSION | DOCUMENT                   |               |                   |
|----------------------------------|------------------------|-------------|------------|----------------------------|---------------|-------------------|
| STUDY DESCRIPTION                | REQ'D                  | NUMBER      | DATE       | NUMBER                     | OWNER         | AUTHORIZATION     |
| WILDLIFE AND AQUATIC ORGANISMS   | Property of the second | TOWN TO WAS |            | on the Special Contract of | A CHARGE LAND | - F- 10 MA 14 A - |
| AVIAN AND MAMMALIAN TESTING:     |                        |             |            |                            |               |                   |
| 71-1 AVIAN ORAL LD (TGAI)        | +                      | 234395      | 3/1/78     |                            | Monsanto      |                   |
| 71-2 AVIAN DIETARY LC (TGAI)     | +                      | 094171      | 7/12/74    |                            | Monsanto      | or any other land |
| 71-3 WILD MAMMAL TOXICITY (TGAI) | NR                     |             |            |                            |               |                   |
| 71-4 AVIAN REPRODUCTION (TGAI)   | +                      | 235924      | 11/13/78   |                            | Monsanto      |                   |
| 71-5 SIMULATED AND ACTUAL        |                        |             |            |                            |               |                   |
| FIELD TESTING -                  | NR                     |             |            |                            |               |                   |
| MAMMALS AND BIRDS (TEP)          |                        |             |            |                            |               |                   |
| AQUATIC ORGANISM TESTING:        |                        |             |            |                            |               |                   |
| 72-1 FRESHWATER FISH LC (TGAI)   |                        | 094171      | 7/12/74    |                            | Monsanto      |                   |
|                                  |                        | 234395      | 3/1/78     |                            | Monsanto      |                   |
|                                  | +                      | 097661      | 11/28/78   |                            | Monsanto      |                   |
| 72-2 ACUTE LD FRESHWATER         |                        |             |            |                            |               |                   |
| INVERTEBRATES (TGAI)             | +                      | 097661      | 11/28/78   |                            | Monsanto      |                   |
| 72-3 ACUTE LC ESTUARINE          |                        |             |            |                            |               |                   |
| AND MARINE ORGANISMS (TGAI)      |                        | 097661      | 11/28/78   |                            | Monsanto      |                   |
|                                  | +                      | 094171      | 7/12/74    |                            | Monsanto      |                   |
| 72-4 FISH EARLY LIFE STAGE       |                        |             |            |                            |               |                   |
| AND AQUATIC INVERTE-             |                        |             |            |                            |               |                   |
| BRATE LIFE-CYCLE (TGAI)          | +                      | 249160      | 12/20/82   |                            | Monsanto      |                   |
| 72-5 FISH: LIFE-CYCLE (TGAI)     | +                      | 097759      | 12/22/78   |                            | Monsanto      |                   |



EPA

| 40 CFR 158.145<br>STUDY DESCRIPTION         | DATA<br>REQ'D | REFERENCE<br>NUMBER | SUBMISSION DATE  | DOCUMENT<br>NUMBER | OWNER                | AUTHORIZATION |
|---|---------------|---------------------|------------------|--------------------|----------------------|---------------|
| WILDLIFE AND AQUATIC ORGANISMS              |               | 4                   |                  |                    |                      |               |
| AQUATIC ORGANISM TESTING: (CONT.)           |               |                     |                  |                    |                      |               |
| 72-6 AQUATIC ORGANISM                       |               |                     |                  |                    |                      |               |
| ACCUMULATION (TGAI, PAI or DP)              | +             | 097762<br>094171    | 12/22/78 7/12/74 |                    | Monsanto<br>Monsanto |               |
| 72-7 SIMULATED OR ACTUAL<br>FIELD TESTING - |               |                     |                  |                    |                      |               |
| AQUATIC ORGANISMS (TEP)                     | NR            |                     |                  |                    |                      |               |

NR = Not Required - See Explanation Sheet

#### Explanation of Data Not Required to Support Registrations

40 CFR 158.145 Hazard Evaluation: Wildlife and Aquatic Organisms

71-3

71-5

Wild Mammal Toxicity (TGAI)

Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental fate characteristics. Results from other glyphosate studies have not triggered this requirement.

Simulated and Actual Field Testing - Mammals and Birds (TEP) Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental fate characteristics. Results from other glyphosate studies have not triggered this requirement.

Simulated or Actual Field Testing - Aquatic Organisms (TEP) Results of tier one and tier two studies with Roundup and glyphosate demonstrate that these materials have a low level of toxicity to aquatic species. Results from other studies have not triggered this requirement. 40 CFR 158.150 Hazard Evaluation: Nontarget Plants

Monsanto has conducted extensive testing on the phytoxicity of glyphosate and the various product formulations which include glyphosate. It has been determined that glyphosate is essentially non-selective in its herbicidal effects when it is applied topically to green vegetation. However, it is tightly absorbed to soil components and is inactive as a soil applied herbicide.

Based on this information, glyphosate should be considered potentially injurious to any green plants that it contacts, and appropriate good application practices should be followed when using glyphosate products.

Although glyphosate is metabolized by soil microorganisms, there are no observations where the presence of glyphosate has any effect on the natural populations of soil microorganisms.







GLYPHOSATE EPA Reg. No. 524-

EPA

| 40 CFR 158.155 NONTARGET INSECT | DATA  | REFERENCE | SUBMISSION | DOCUMENT |       |               |
|---------------------------------|-------|-----------|------------|----------|-------|---------------|
| STUDY DESCRIPTION               | REQ'D | NUMBER    | DATE       | NUMBER   | OWNER | AUTHORIZATION |

NONTARGET INSECT TESTING - POLLINATORS:

141-1 HONEY BEE ACUTE CONTACT LD (TGAI)

**→** 094171

7/12/74

Monsanto

(NOTE: No other requirements under 40 CFR 158.155 are required for this product)

#### GLYPHOSATE EPA Reg. No. 524-

EPA

| 40 CFR 158.140<br>STUDY DESCRIPTI | ON                | DATA<br>REQ'D | REFERENCE<br>NUMBER | SUBMISSION DATE | DOCUMENT<br>NUMBER | OWNER | AUTHORIZATION |
|-----------------------------------|-------------------|---------------|---------------------|-----------------|--------------------|-------|---------------|
| EXPOSURE/REENTR                   | Y                 |               |                     |                 |                    |       |               |
| 132-1 FOLIAR D                    | ISSIPATION (TEP)  | NR            | The Francisco       |                 |                    |       |               |
| 132-1 SOIL DIS                    | SIPATION (TEP)    | NR            |                     |                 |                    |       |               |
| 133-3 DERMAL E                    | XPOSURE (TEP)     | NR            |                     |                 |                    |       |               |
| 133-4 INHALATI                    | ON EXPOSURE (TEP) | NR            |                     |                 |                    |       |               |

NR = Not Required - See Explanation Sheet



#### 40 CFR 158.140 Exposure/Reentry

132-1

132-1

133-3

133-4

Foliar Dissipation (TEP) Soil Dissipation (TEP) Dermal Exposure (TEP) Inhalation Exposure (TEP)

MON-20047 herbicide (glyphosate) is not applied to growing crops or to soil. It is applied to undesirable grass & broadleaf weeds to control or otherwise mitigate their growth or competition with turf or ornamentals. It is unlikely that people would contact such treated vegetation on a regular or extended basis.

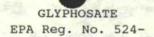
Based on the known toxicity of glyphosate and MON-20047 no reentry restrictions have been required and no additional dermal or inhalation studies have been requested.







| 40 CFR 158.130                          | DATA  | EPA<br>REFERENCE | SUBMISSION | DOCUMENT |          |                |
|---|-------|------------------|------------|----------|----------|----------------|
| STUDY DESCRIPTION                       | REQ'D | NUMBER           | DATE       | NUMBER   | OWNER    | AUTHORIZATION  |
|   |       |                  |            |          |          |                |
| DEGRADATION STUDIES - LAB:              |       |                  |            |          |          |                |
| 161-1 HYDROLYSIS (TGAI or PAIRA)        | +     | 234109           | 06/05/78   |          | Monsanto | A THE STATE OF |
| PHOTODEGRADATION:                       |       |                  |            |          |          |                |
| 161-2 IN WATER (TGAI or PAIRA)          | * 47  | 095789           | 07/12/74   |          | Monsanto |                |
| 161-3 ON SOIL (TGAI or PAIRA)           | +     | 095789           | 07/12/74   |          | Monsanto |                |
| 161-4 IN AIR (TGAI or PAIRA)            | NR    |                  |            |          |          |                |
| METABOLISM STUDIES - LAB:               |       |                  |            |          |          |                |
| 162-1 AEROBIC SOIL (TGAI or PAIRA)      | +     | 095789           | 07/12/74   |          | Monsanto |                |
|   |       | 095790           | 07/12/74   |          | Monsanto |                |
| 162-2 ANAEROBIC SOIL (TGAI or PAIRA)    | +     | 095789           | 07/12/74   |          | Monsanto |                |
| 162-3 ANAEROBIC AQUATIC (TGAI or PAIRA) | +     | 234109           | 06/05/78   |          | Monsanto |                |
| 162-4 AEROBIC AQUATIC (TGAI or PAIRA)   | +     | 234109           | 06/05/78   |          | Monsanto |                |
| MOBILITY STUDIES:                       |       |                  |            |          |          |                |
| 163-1 LEACHING (ADSORPTION/             |       |                  |            |          |          |                |
| DESORPTION) (TGAI or PAIRA)             | +     | 234108           | 06/05/78   |          | Monsanto |                |
|   |       | 234109           | 06/05/78   |          | Monsanto |                |
|   |       | 095789           | 07/12/74   |          | Monsanto |                |
|   |       | 095790           | 07/12/74   |          | Monsanto |                |
| 163-2 VOLATILITY (LAB) (TEP)            | +     | 234109           | 06/05/78   |          | Monsanto |                |
| 163-3 VOLATILITY (FIELD) (TEP)          | NR    |                  |            |          |          |                |
|   |       |                  |            |          |          |                |



|                                       |              | EPA                 |             |          |                         |
|---------------------------------------|--------------|---------------------|-------------|----------|-------------------------|
| 40 CFR 158.130                        | DATA         | REFERENCE           | SUBMISSION  |          |                         |
| STUDY DESCRIPTION                     | REQUIRED     | NUMBER              | DATE        | OWNER    | AUTHORIZATIO            |
| DISSIPATION STUDIES - FIELD: (cont'd) |              |                     |             |          |                         |
| 164-1 SOIL (TEP)                      | +            | 095789              | 07/12/74    | Monsanto | Admit Land              |
|                                       |              | 095790              | 07/12/74    | Monsanto | Marine Alexander Street |
| 164-2 AQUATIC (SEDIMENT (TEP)         |              | 095790              | 07/12/74    | Monsanto |                         |
| 164-3 FORESTRY (TEP)                  | +            | 246006              | 09/29/81    | Monsanto |                         |
|                                       |              | 246658              | 02/01/82    | Monsanto |                         |
|                                       |              | 250513              | 06/17/83    | Monsanto |                         |
|                                       |              | 251864              | 11/18/83    | Monsanto |                         |
| 164-4 COMBINATION & TANK MIXES        | NR           |                     | The Landson |          |                         |
| 164-5 SOIL, LONG-TERM (TEP)           | NR           |                     |             |          |                         |
| ACCUMULATION STUDIES:                 |              |                     |             |          |                         |
| 165-1 ROTATIONAL CROPS                |              |                     |             |          |                         |
| (CONFINED) (PAIRA)                    | +            | 095790              | 07/12/74    | Monsanto |                         |
| 165-2 ROTATIONAL CROPS (FIELD) (TEP)  | THE PARTY    | 096398              | 10/14/77    | Monsanto |                         |
| 165-3 IRRIGATED CROPS (TEP)           | +            | 094684              | 09/25/75    | Monsanto |                         |
| 165-4 IN FISH (TGAI or PAIRA)         | +            | 097762              | 12/22/78    | Monsanto |                         |
|                                       |              | Appendix B          | 3           | Monsanto |                         |
| 165-5 IN AQUATIC NON-TARGET           |              | Control of the last |             |          |                         |
| ORGANISMS (TEP)                       | +            | Appendix            |             | Monsanto |                         |
|                                       |              | 094684              | 09/25/75    | Monsanto |                         |
| NR = Not Required - See Explan        | nation Sheet |                     |             |          |                         |
|                                       |              |                     |             |          |                         |



### Explanation of Data Not Required to Support Registrations

#### 40 CFR 158.130 Environmental Fate

| 161-4 |  |  |  |
|-------|--|--|--|
|       |  |  |  |
|       |  |  |  |
|       |  |  |  |
|       |  |  |  |
| 163-3 |  |  |  |
|       |  |  |  |
|       |  |  |  |
|       |  |  |  |
| 164-4 |  |  |  |
| 104-4 |  |  |  |
|       |  |  |  |
|       |  |  |  |
|       |  |  |  |
|       |  |  |  |
| 164-5 |  |  |  |
| 164-5 |  |  |  |
|       |  |  |  |
|       |  |  |  |
|       |  |  |  |

Photodegradation: In Air (TGAI)
Glyphosate is not applied as an aerosol or mist, and is not applied over orchard or vegetable crops.

Volatility: Field (TGAI)
Glyphosate is essentially non-volatile and, therefore, does not require
field volatility testing.

Field Dissipation: Combination and Tank Mixes
The Agency has not requested any specific studies. However, glyphosate tank
mix residue data are available under the 40 CFR 158.125 Residue Data section
of this data package.

Long-Term Soil Dissipation (TEP)
Glyphosate has a sufficiently short half-life in soil that this study has not been required.

|      | 24-  |
|------|------|
| SATE | . 52 |
| SA   | No   |
| GLY  | Reg. |
|      | EPA  |
|      |      |

| 40 CFR 158.125                 | DATA   | REFERENCE  | SUBMISSION        | DOCUMENT       | bra      |  |
|--------------------------------|--|--|-------------------|----------------|----------|--|
| STUDY DESCRIPTION              | REQ'D  | NUMBER   | DATE              | NUMBER         | OWNER    | AUTHORIZATION  |
| RESIDUE TESTING                | The Control of the Co | Consistence of the contract of | The second second | Contraction of |          | The state of the s |
| 171-2 CHEMICAL IDENTITY (TGAI) | +  | 096177   | 06/01/76          |                | Monsanto |  |
| 171-3 DIRECTIONS FOR USE       | +  | (524-308)  |                   |                | Monsanto |  |
| NATURE OF THE RESIDUE:         |  |  |                   |                |          |  |
| 171-4 PLANTS (PAIRA)           | +  | Appendix A   |                   |                | Monsanto |  |
| 171-4 LIVESTOCK (PAIRA (PM)    | +  | Appendix B   |                   |                | Monsanto |  |
| 171-4 RESIDUE ANALYTICAL       | +  | 096177   | 06/01/76          |                | Monsanto |  |
| METHOD (TGAI & METABOLITES)    |  | 229787   | 05/10/77          |                | Monsanto |  |
|                                |  | 094166   | 12/23/75          |                | Monsanto |  |

|--|

| Mature of Residue:   |              | Study Description                  | Number        | Date     | Owner                | Authorization                           |
|--|--------------|------------------------------------|---------------|----------|----------------------|---|
| Corn         094181         12/23/75           Wheat         094164         12/23/75           Ogd 164         12/23/75         12/23/75           Soybeans         094164         12/23/75           Cotton         094164         12/23/75           Grapes         094164         12/23/75           Cotton         094165         12/23/75           Grapes         094165         12/23/75           Cotton         094165         12/23/75           Ogd 164         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094166         12/23/75           094167         06/01/76           00         095141         09/01/76           00         09704         094/28/78           00         09704 | Natu<br>171- | re of Residue:<br>4 Plants (PAIRA) |               |          |                      |   |
| Wheat         094164         12/23/75           Wheat         094165         12/23/75           Soybeans         094181         12/23/75           Cotton         094181         12/23/75           Grapes         094181         12/23/75           Grapes         094164         12/23/75           O94164         12/23/75           094165         12/23/75           094164         12/23/75           094165         12/23/75           094164         12/23/75           094165         12/23/75           094164         12/23/75           094165         12/23/75           094166         12/23/75           094167         10/04/74           Coffee         094164         12/23/75           Coffee         094165         12/23/75           Coffee         094164         10/04/74           Coffee         094164         10/04/74           Coffee         096/01/76         06/01/76           Coffee         095177         09/01/76           Coffee         095271         09/01/76           Coffee         097094         09/01/76         |              | Corn                               | 094181        | 12/23/75 | Monsanto             |   |
| Wheat         094181         12/23/75           094164         12/23/75           094164         12/23/75           094165         12/23/75           12/23/75         094164           094164         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094166         12/23/75           094167         06/01/76           0         094165           0         094177           0         095141           0         095171           0         0951716           0         09701/76           0         09701/76           0         09701/76           0         09701/76           0         09701/76           0         09701/76  |              |                                    | 094164 094165 | 12/23/75 | Monsanto<br>Monsanto |   |
| Soybeans         094164         12/23/75           Soybeans         094181         12/23/75           Cotton         094181         12/23/75           Cotton         094164         12/23/75           Grapes         094164         12/23/75           Citrus         094164         12/23/75           Coffee         094164         12/23/75           Coffee         094165         12/23/75           Coffee         094165         12/23/75           Coffee         094165         12/23/75           Coffee         094165         12/23/75           Coffee         095177         06/01/76           Coffee         095141         03/01/76           Coffee         095271         09/01/76           Come fruit         095271         09/01/76           Comme fruit         095271         09/01/76   |              | Wheat                              | 094181        | 12/23/75 | Monsanto             |   |
| Soybeans         094181         12/23/75           094164         12/23/75           094165         12/23/75           094165         12/23/75           Cotton         094181         12/23/75           Grapes         094164         12/23/75           094165         12/23/75           094165         12/23/75           094165         10/04/74           Citrus         094264         10/04/74           Coffee         096177         06/01/76           Coffee         096177         06/01/76           Coffee         095141         03/01/76           Coffee         095271         09/01/76           Coffee         095271         09/01/76   |              |                                    | 094164 094165 | 12/23/75 | Monsanto             |   |
| Cotton         094164         12/23/75           Cotton         094164         12/23/75           Grapes         094164         12/23/75           Grapes         094164         12/23/75           O94165         12/23/75           094165         12/23/75           094165         12/23/75           094165         12/23/75           094166         12/23/75           094167         10/04/74           Coffee         094165         01/19/76           Coffee         096/177         06/01/76           Coffee         095/141         09/01/76           Coffee         095/171         09/01/76           Coffee         095/171         09/01/76   |              | Soybeans                           | 094181        | 12/23/75 | Monsanto             |   |
| Cotton         094181         12/23/75           Grapes         094164         12/23/75           094165         12/23/75           094165         12/23/75           12/23/75         12/23/75           Citrus         094264         10/04/74           Coffee         096177         06/01/76           Coffee         096177         06/01/76           Coffee         095141         03/01/76           Coffee         095271         09/01/76           Coffee         095271         09/01/76           Coffee         09/01/76         09/01/76   |              |                                    | 094164        | 12/23/75 | Monsanto             |   |
| Grapes         094164         12/23/75           Citrus         094264         10/04/74           Coffee         094958         01/19/76           Coffee         096177         06/01/76           Coffee         095141         03/01/76           Come fruit         095271         09/01/76           Come fruit         09/01/76  | 34           | Cotton                             | 094181        | 12/23/75 | Monsanto             |   |
| Grapes         094264         10/04/74           Citrus         094958         01/19/76           Coffee         096177         06/01/76           Coffee         095141         03/01/76           Pome fruit         095271         09/01/76           Comme fruit         09/01/76           Comme fruit         09/01/76   |              |                                    | 094164 094165 | 12/23/75 | Monsanto             |   |
| Coffee 094958 01/19/76  Coffee 096177 06/01/76  Sugarcane 095141 03/01/76  Pome fruit 09/01/76  For age grasses & Legumes 097094 04/28/78  |              | Grapes                             | 094264        | 10/04/74 | Monsanto             |   |
| Coffee 096177 06/01/76  Sugarcane 095141 03/01/76  Pome fruit 097094 04/28/78  |              | Citrus                             | 094958        | 01/19/76 | Monsanto             |   |
| Sugarcane 095141 03/01/76  Pome fruit 097094 04/28/78  | U            | Coffee                             | 096177        | 06/01/76 | Monsanto             |   |
| Pome fruit 09/01/76  C For age grasses & Legumes 097094 04/28/78   | 35UF         | Sugarcane                          | 095141        | 03/01/76 | Monsanto             | 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| For age grasses & Legumes 097094 04/28/78  | v052         | Pome fruit                         | 095271        | 91/10/60 | Monsanto             |   |
|  | 2            |                                    | 097094        | 04/28/78 | Monsanto             |   |

CONFIDENTIAL INFORMATION OF MONSANTO COMPANY CONTAINS TRADE SECRET OR OTHERWISE

# APPENDIX A

Page 2

| 5 |
|---|
| 7 |
| 4 |
|   |
|   |
| 1 |
| 4 |
|   |
|   |

Reference Number EPA

Submission Date

Authorization

Owner

Data

171-4 Plants (PAIRA) Nature of Residue:

Monsanto 12/09/77 096684 Sugar beets

Nut Crops

Alfalfa

095704

11/30/76 12/31/76 095663

Monsanto

Monsanto

Monsanto

10/15/77

968398

Vegetables

CONFARMS TRACE SECRET ALL OF MENTINGER PROPERTY OF MENTINGER PROPE

CONTAINS TRADE SECRET OR OTHER WISE CONFIDENTIAL MONSANTO CO. IPANY INFORMATION OF

0950F0052

05/10/77

# APPENDIX B

| 40 CRF 158.125 Study Description Number Number Number 171-4 Livestock (PAIRA) Reat, Milk & Eggs Rabit Rat  Rat  Rat  Rat  Rat  094166  84  094166  84  094166 |
|---|
|---|

# APPENDIX E

| 40 CRF 158.130<br>Study Description         | Reference        | Submission                       | Data                             | Authorization |
|---|------------------|----------------------------------|----------------------------------|---------------|
| Accumulation Studies:<br>165-4 Fish (PAIRA) |                  |                                  |                                  |               |
| Rainbow Trout                               | 097762           | 12/22/78                         | Monsanto                         |               |
| Largemouth Bass                             | 097762           | 12/22/78                         | Monsanto                         |               |
| Channel Catfish                             | 097762<br>246876 | 12/22/78<br>02/26/82             | Monsanto<br>Monsanto             |               |
| Bluegill Sunfish                            | 094171           | 12/23/75                         | Monsanto                         |               |
| Crayfish                                    | 097762 071696    | 06/20/83<br>12/22/78<br>06/15/83 | Monsanto<br>Monsanto<br>Monsanto |               |
| Mollusks                                    | 097762 071695    | 06/20/83<br>12/22/78<br>06/15/83 | Monsanto<br>Monsanto<br>Monsanto |               |

COWFIDE, OF RADE SECR.

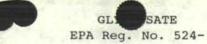
CONTAINS TRADE SECRET OR
OTHERWISE COPILE THAT

MONSANIO COMPANY

SECTION IV

REGISTRATION REQUEST

RESIDUE DATA



| 40 CFR | 158.125   | DATA  | REFERENCE      | SUBMISSION          | DOCUMENT |            |               |
|--------|---|-------|----------------|---------------------|----------|------------|---------------|
| STUDY  | DESCRIPTION   | REQ'D | NUMBER         | DATE                | NUMBER   | OWNER      | AUTHORIZATION |
|        |   |       |                |                     |          |            |               |
| THE .  | EAST STATE OF THE |       |                |                     |          |            |               |
| MAGNIT | UDE OF THE RESIDUE:   |       |                |                     |          |            |               |
| 171-4  | CROP FIELD TRIALS (TEP)   | +     | Appendix C     |                     |          | Monsanto   |               |
| 171-4  | PROCESSED FOOD/FEED (EP)  | +     | 094958         | 01/19/76            |          | Monsanto   |               |
|        |   |       | 095972         | 07/21/76            |          | Monsanto   |               |
| 171-4  | MEAT/MILK/POULTRY/EGGS (TGAI or PM)   | +     | 094180         | 12/23/75            |          | Monsanto   |               |
|        |   |       | 245642         | 09/30/84            |          | Monsanto   |               |
| 171-4  | POTABLE WATER (EP)  | +     | Appendix D     | 12 15               |          | Monsanto/P | ublic         |
| 171-4  | FISH (EP)   | +     | 097762         | 12/22/78            |          | Monsanto   |               |
| 171-4  | IRRIGATED CROPS (EP)  | + +   | Appendix C     |                     |          | Monsanto   |               |
| 171-4  | FOOD HANDLING (EP)  | NR    |                |                     |          |            |               |
| 171-5  | REDUCTION OF RESIDUE  | NR    |                |                     |          |            |               |
| 171-6  | PROPOSED TOLERANCES   | +     | Appendix F     | THE PLANT OF STREET |          | Monsanto   |               |
| 171-7  | REASONABLE GROUNDS IN   |       | don't distance |                     |          |            |               |
|        | SUPPORT OF THE PETITION   |       |                |                     |          | Monsanto   |               |

NR = Not Required - See Explanation Sheet

Reasonable grounds in support of the petition are submitted with each letter of application and in each petition/data submission summary.

#### Explanation of Data Not Required to Support Registrations

40 CFR 158.125 Residue Data

171-4

171-5

Food Handling (EP)

Data on residues in food or feed in food handling establishments are required whenever a pesticide is to be used in food/feed handling establishments. MON-20047 is not used in such establishments.

Reduction of Residue

Reduction of residue is required when the assumption of tolerance level residues results in an unsafe level of exposure. MON-20047 is not intended for use in food crops; therefore residues will not occur in food or feed or water.

# APPENDIX C

| 40 CRF 158.125<br>Study Description  | CRF 158.125<br>Description             | EPA<br>Reference<br>Number | Submission           | Data                     | Authorization  |
|--|--|----------------------------|----------------------|--------------------------|--|
| Magnitude of Residue:<br>171-4 Crop Field Trials   | s (TEP)                                |                            |                      |                          |  |
| Corn   | 10000000000000000000000000000000000000 | 095787                     | 07/12/74             | Monsanto                 | A STATE OF THE STA |
|  |  | 232683                     | 12/12/77             | Monsanto                 |  |
|  |  | 222755 238167              | 12/19/75 03/30/79    | Monsanto                 |  |
| Wheat  |  | 095787                     | 07/12/74             | Monsanto                 |  |
| Soybeans   |  | 095787                     | 07/12/74 06/17/77    | Monsanto                 |  |
| The Control of the Co | 80,                                    | 232680                     | 12/12/77<br>02/19/73 | Monsanto                 |  |
| Oats   | TANS<br>HERW<br>FORM<br>COMP           | 095787                     | 07/12/74             | Monsanto                 |  |
| Rice   | TRADI<br>SE CO<br>ATION                | 095787                     | 07/12/74             | Monsanto                 |  |
| Barley   | E SEC<br>NFIDE<br>OE M                 | 095787                     | 07/12/74             | Monsanto                 |  |
| Sorghum (Milo)   | PRET CATAL                             | 095787<br>247659           | 07/12/74 06/04/82    | Monsanto                 |  |
| Grapes   | DR<br>MO                               | 094260                     | 10/04/74             | Monsanto                 |  |
| Raisins  |  | 095703                     | 12/31/76             | Monsanto                 | A STATE OF STREET  |
| Citrus   |  | 094957                     | 01/19/76             | Monsanto                 |  |
|  |  |                            |                      | CONTAINS TRADE SECRET CR | SECRIT C.R.  |

Mindrey Cart.

INFORMATION OF

| CONFIDENTIAL INFORMATION OF MOUSTAIN COMPANY   |      |      |            |      |
|--|------|------|------------|------|
| OR OTHERWISE<br>OR OTHERWISE<br>NEIDENTIAL INFORMATI   | 1    |      | ON         | 7    |
| OR OTHERWISE<br>OR OTHERWISE<br>NEIDENTIAL INFORME<br>MODISALITO COM   | CE   |      | ATI        | PAR  |
| OR OTHERW OR DESIGNATION OF MODIFICATION OF MO | E SE | /ISE | JR.M       | OM   |
| OR OTHE<br>OR OTHE<br>NEIDENTIAL I   | SAD  | Z.   | NFO<br>PFO |      |
| OR O<br>NFIDENTIA  | STR  | Ξ.   | 70         | 7111 |
| NEIDE<br>MADE  | AN   | 2    | = 2        |      |
| 3 7 5  | =    | 2    |            |      |
|  | 3    | NIE  | F          |      |
| 80   |      | 5    | , 0        | 1    |

APPENDIX C

Page 2

| Study Description                                      | Reference | Submission        | Data     | Authorization |
|--|-----------|-------------------|----------|---------------|
| Magnitude of Residue:<br>171-4 Crop Field Trials (TEP) |           |                   |          |               |
| Cotton   | 096191    | 11/11/90          | Monsanto |               |
|  | 099720    | 11/03/80 05/17/76 | Monsanto |               |
| Coffee   | 096177    | 06/01/76          | Monsanto |               |
| Sugarcane  | 095141    | 03/01/76          | Monsanto |               |
| Palm Oil   | 224884    | 08/02/76          | Monsanto |               |
| Pome Fruit   | 095271    | 09/01/76          | Monsanto |               |
| Asparagus  | 966960    | 03/01/78          | Monsanto |               |
| Nut Crops  | 095633    | 11/30/76          | Monsanto |               |
| Alfalfa  | 095704    | 12/31/76          | Monsanto |               |
| Vegetable (grouping)<br>(seed, pod, leafy, root)       | 096398    | 10/15/77          | Monsanto |               |
| Avocados   | 096631    | 11/15/77          | Monsanto |               |
| Sugarbeets   | 096684    | 12/09/77          | Monsanto |               |
| Potatoes   | 096684    | 12/09/77          | Monsanto |               |

CONTAINS TRADE SECRET OR OTHERWISE CONFIDITION INFORMATIONS OF

| Page 3  Data Owner  Authorization   | Monganto       | Monsanto          | Monsanto | Monsanto | Monsanto    | Monsanto | Monsanto  | Monsanto | Monsanto             | IR-4        | IR-4     | IR-4     | CONTAINS TRADE SECRET OR OTHERWISE CONFIDE, ITEL 1 | INFORMATION OF TR-4 MONSANTO COMPANY   |
|---|----------------|-------------------|----------|----------|-------------|----------|-----------|----------|----------------------|-------------|----------|----------|--|--|
| Submission<br>Date  | 05/08/81       | 04/28/78 09/12/80 | 06/30/81 | 02/18/80 | 12/15/78    | 06/14/79 | 06/14/79  | 06/14/79 | 03/09/82             | 09/10/80    | 11/13/80 | 11/13/80 | 02/22/83   | 05/11/83   |
| APPENDIX C EPA Reference Number   | 070083         | 097094            | 245567   | 099306   | 097735      | 098332   | 098332    | 098332   | 247004               | 099624      | Ī        |          |  | And the state of t |
| CONFIDENTIAL INFORMATION  OF MOLES INFO COMPANY  40 CRF 158.12\$VY  Study Description | Forage Grasses | and Legumes       | Tea      | Peanuts  | Stone Fruit | Bananas  | Plaintain | Olives   | Coconut, Coconut Oil | Cranberries | Guava    | Papaya   | Cucurbits (grouping)                               | Veqetables (grouping)  |

| CONTAINS TRADE SECRET  OF OTHER WISE  Study Description  Number  Date |
|---|
| STRADE SECRET LINEQUISE LINEQUISE TO COMMATION  RF 15848454  RR 15848454  RR 158494500  |
| STRADE SECRET LINEQUISE TO CORMATION RF 158/124/by escription   |
| ONITAINS TRADE SECRET ONS OTHERWISE TONIS ANTO COMMATION 40 CRF 158/12/8/17 tudy Description  |
|   |

Authorization

|                                       | Color of the Color |          |  |
|---------------------------------------|--|----------|--|
| Canals                                | 094684<br>095356   | 09/25/75 | Public Document <sup>1</sup> Monsanto    |
| Flooded Levees                        | 095356   | 09/25/75 | Monsanto<br>Monsanto                     |
| Ponds                                 | 094684   | 09/25/75 | Public Document <sup>2</sup><br>Monsanto |
| Potable Water Treatment               | 095356   | 09/25/75 | Monsanto                                 |
| Ditchbank/Flowing Water               | 097660   | 12/22/78 | Monsanto<br>Monsanto                     |
| Shoreline/Impounded Water             | 097660   | 12/22/78 | Monsanto<br>Monsanto                     |
| Total Area/Impounded Water            | 097660   | 12/22/78 | Monsanto<br>Monsanto                     |
| Whole Cross-section/<br>Flowing Water | 070170   | 06/29/81 | Monsanto                                 |

CONTAINS TRADE SECRET OR OTHER WISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

99 90 90 90 91 97 97 97 81.D. Comes. USDA/ARS. Prosser, Washington 97 82/ R.D. Blackburn. USDA/ARS. Fort Lauderdale, Florida

JUN 1 7 1993

Dr. Sheila A. Schuette Monsanto Company The Agricultural Group 700 14th Street, N.W. Suite #1100 Washington, D. C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Add Wiper Application To Wheat) EPA Registration No. 524-445 Your Application Dated May 10, 1993

The amendmet referred to above, submitted in connection with registration under FIFRA sec. 3(C)(7)(A), is acceptable provided that you:

- 1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.
- 2. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

The accceptance of your label does not relieve you of any obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR Part 156, subpart K, 200 (c)(3), you are prohibited from distributing or selling any product within the scope of WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely,

Robert J. Taylor
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

#### SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

with COMMENTS in EPA Letter Dated:

# ROUNDUP® Herbicide by Monsanto

JUN 1 7 1993

EPA Reg. No. 524-445

Under the Federal Insecticide, Fungicide, and Rodenticide Act

as amended, for the pasticide

registered under EPA Reg. WYPER APPLICATIONS FOR COMMON RYE IN WHEAT

3-4-445

Keep out of reach of children.

#### WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

@Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

t is a violation of Federal law to use this product in any manner inconsistent with its abeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION", "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" and "SELECTIVE EQUIPMENT" sections of the label booklet for Roundup herbicide for essential product performance information.

#### RECOMMENDATIONS

This product controls common rye, or cereal rye, which is growing in wheat. Make applications with a rope wick or other wiper applicator.

Do not use roller applicators.

Applications may be made after common rye has headed and achieved maximum growth, when the rye is at least 6 inches above the wheat crop. Repeat applications may be needed to control plants that were not above the wheat at the time of the first application. Make the final application at least 35 days prior to harvest.

Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution.

Applications should be made when common rye plants are actively growing and free from dust or moisture (such as dew).

Do not permit herbicide solution to contact desirable vegetation.

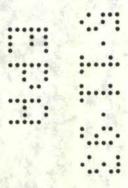
5

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1993

MAP

MONSANTO COMPANY AGRICULTURAL PRODUCTS ST. LOUIS, MISSOURI 63167



| 2                      |         | 1. REGISTRATION NUMBER                               |       |                           |                       |      | C    | CLE   | 2. DATE RECEIVED     |     |                   |     |         |        |      |          |
|------------------------|---------|--|-------|---------------------------|-----------------------|------|------|-------|----------------------|-----|-------------------|-----|---------|--------|------|----------|
|                        |         | MISSION REVIEW RECORD                                | 3     | 5                         | 24                    | -    | 3    | 4     | 43                   | 5   | 1                 | 0   | 7       | DAY    | Q I  |          |
| 3.                     | 3010    | PUBLICATION NECESSARY                                | 4. PE | TITION                    | NO.                   | 1    | 1    | 37.7  |                      |     |                   |     |         | IVED P |      | - 3      |
|                        |         | YES NO   |       |                           |                       |      |      |       |                      |     |                   | -   | 9       | 044    | YR   | 1 100    |
| 6. METHOD OF SUPPORT   |         |  | 7. PR | 7. PRODUCT MANAGER        |                       |      |      |       | . 1                  | NO. |                   |     | ECTEO   | ETUR   | 7    |          |
|                        |         | 24 28 20   |       |                           |                       |      |      |       |                      |     |                   | M   | 0       | 044    | YA   |          |
| 9.0                    |         | PULLED 10 DATE PUBLISHED                             |       | 11. ACTION TYPE           |                       |      |      |       | C                    | 300 | 12. OUTGOING DATE |     |         |        |      |          |
|                        | 6/10/93 |  | hol   | Rope wick & unque appl to |                       |      |      |       |                      | -   | MO DAY Y          |     |         | YA     |      |          |
| SEQ.<br>REVIEW<br>TYPE |         | REVIEW TYPE  | REVIE | DE 30                     | SIGNATURE OF REVIEWER |      |      | M     | COM-<br>MENT<br>CODE | 111 | DATE REVIEW CO    |     | MPLETED |        |      |          |
|                        | A       | REVIEWABILITY TEAM                                   | 14    | 1                         | 1                     |      |      |       |                      |     |                   |     | 3       |        |      |          |
|                        | В       | PRODUCT MANAGER TEAM<br>EFFICACY REVIEW              |       |                           |                       | Sec. |      | ě.C   |                      |     |                   |     | 9       |        |      |          |
| 100                    | С       | PRODUCT MANAGER TEAM<br>HUMAN SAFETY REVIEW          |       | 1                         |                       |      | +    | 7     |                      |     |                   |     |         | 1      |      |          |
|                        | D       | PRODUCTMANAGER TEAM EN-<br>VIRONMENTAL SAFETY REVIEW |       | 1                         |                       |      | 6    |       |                      |     |                   |     |         |        |      |          |
| 1                      | Ε       | PRODUCT MANAGER TEAM<br>RESUBMISSION REVIEW          | 1     | 1                         | M                     | 4    | X. P | 1     |                      |     |                   |     |         |        | 1    |          |
| 1                      | F       | PRODUCT MANAGER                                      |       | 1                         |                       | -    |      |       | ) Y                  | JA  | AC                | 0   | 6       | 10     | 91   | 3        |
|                        | G       | INTERAGENCY REFERRAL                                 | 1     | 1.5                       | Odler                 | jut  | h 35 | me    | - Rec                | net | doct              | 6   | 1       |        | 1    | The last |
|                        | н       | COST-BENEFIT REVIEW                                  | Ta    |                           | Orlera                | nee  | 2 01 | Ly    | Pf                   | No  |                   |     |         |        | 1    |          |
|                        | I.      | PUBLIC COMMENTS REVIEW                               |       | 1                         | oP3                   | 865  | 1 2  | H51   | . 3.                 |     | 0                 | lay | PH      | 1/1    | 1    | 1        |
|                        | 1       | EFFICACY   | 1     |                           | ullo                  | we   | ra   | peli  | in                   | ten |                   | 2   |         | 1      |      |          |
|                        | K       | EEE BRANCH HERBICIDE                                 | 1     |                           | 42.17                 |      |      | , ,   |                      |     |                   |     |         |        |      |          |
|                        | L       | EEE BRANCH FUNGICIDE                                 | I.    |                           | F 15                  |      |      |       |                      |     |                   |     |         | 10     |      | 3        |
|                        | М       | EEE BRANCH RODENTICIDE                               | 1     | 1 3                       |                       |      | 4    | 4     | Ž,                   |     |                   |     |         |        |      |          |
|                        | N       | EEE BRANCH DISINFECTANT                              | 1     | 1                         | 1, 52                 | 1    |      |       | 1                    |     |                   | 100 |         | A      | 1    | L        |
|                        | 0       | CHEMISTRY BRANCH<br>RESIDUE CHEMISTRY                | 1     | 1                         | 2.5                   | 4    |      |       | 797                  |     |                   | 15  |         |        |      | L        |
|                        | Р       | EEE BRANCH ENVIRON .<br>MENTAL CHEMISTRY             | q.    | 1 4                       |                       | J-   | 19.  | 4     | 9/6                  |     |                   |     | T.      | 1      |      | L        |
|                        | a       | TOXICOLOGY BRANCH                                    | 1     | 1                         | 10                    | · L  |      | P. A. |                      |     |                   | 100 | 1       | 1      | 1 10 | 1        |
|                        | R       | EEE BRANCH ENVIRON-<br>MENTAL SAFETY                 |       |                           |                       | 1    |      |       |                      |     |                   |     |         | 1      |      | 1        |
|                        | S       |  | 1     |                           | 14                    | à.   |      |       |                      |     |                   | 100 |         | 1      | 16   | 1        |
|                        | Т       |  | 13    |                           |                       |      |      | 100   |                      |     |                   | 1   | 1       |        |      | 1        |
| 100                    | OUCT    | MANAGER SIGNATURE                                    | - 7.3 | 8 8                       | TYPE OF               | RESP | ONSE | 13.1  |                      | 1   |                   |     | 2       | 68     | COD  | ŧ        |

EPA Form 8570-13 (3-75)

| Section   1   Company/Product Number   S24-445   | SEP   | United States Environment<br>Office of Pesticide Pro<br>Washington, D<br>Application for   | tal Protection Agency<br>ograms (H7505C)<br>OC 20460   | X Ar  | egistrati<br>nendme<br>her   | THE RESERVE AND ADDRESS OF THE PARTY OF THE  |  |  |
|--|---|--|--|---|--|--|--|--|
| Section  |   | Se   | ction I  | N. Chilliple  | 1000   | ARTHORNIAN TOTAL   |  |  |
| 4. Company/Product (Name) Roundup® Herbicide 5. Name and Address of Applicant (Include 2IP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 Check if this is a new address Product Name Product Name Product Name Product Name Product Name Section II  X Amendment - Explain below Resubmission in response to Agency letter dated Notification - Explain below.  Explanation: Use additional page(s) if necessary. (For section I and Section II) Roundup Herbicide Supplemental label: Wiper applications for common rye in wheat  Section III  1. Material This Product Will Be Packaged In: Child-Resistant Packaging Water Soluble Packaging Ves No. per Submitted. No. per Submitted. Section III  1. Material This Product Will Be Packaged wgt. container Submitted. Section III  1. Material This Product Will Be Packaged wgt. container Submitted. Section III  1. Child-Resistant Packaging Water Soluble Packaging Ves No. per Submitted. Soluble Package wgt. container Water Soluble Packaging Ves No. per Submitted. Soluble Package wgt. container Water Soluble Packaging Ves No. per Submitted. Soluble Package wgt. container Water Soluble Packaging Ves No. per Soluble Packaging Ves No.  | 1. Company/Product Number   |  |  |   | A William  | 3. Proposed Classification   |  |  |
| Monsanto Company 700 14th Street, N.W., Suite 1100 WashIngton, D.C. 20005    Check if this is a new address   PAReg. No.   |   | ) MULTINE STORY  | PM#  |   |  | X None Restricted  |  |  |
| Amendment - Explain below Resubmission in response to Agency letter dated Notification - Explain below.  Explanation: Use additional page(s) if necessary. (For section I and Section II.) Roundup Herbicide Supplemental label: Wiper applications for common rye in wheat  Section III  1. Material This Product Will Be Packaged In: Child-Resistant Packaging  | Monsanto Co<br>700 14th St<br>Washington,   | reet, N.W., Suite 1100<br>D.C. 20005   | (b)(i), my prod<br>to:<br>EPA Reg. No.   | uct is similar  |  |  |  |  |
| Amendment Explain below Resubmission in response to Agency letter dated Notification - Explain below.  Explanation: Use additional page(s) if necessary. (For section I and Section II.)  Roundup Herbicide Supplemental label: Wiper applications for common rye in wheat  Section III  1. Material This Product Will Be Packaged In: Child-Resistant Packaging  Yes  No  If Yes, No  If Yes, No  If Yes, Unit Package wgt. Unit Package wgt. Unit Package wgt. Ves Various  Submitted.  3. Location of Net Container  Label  Container  Label  Container  Various  Cettification in Which Label is Affixed To Product  Lithograph Paper glued Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Telephone No. (Include Area Container)  Cettification  Dr. Russell P. Schneider  Title Agricultural Regulation Dr. Russell P. Schneider  Cettification  Cettification  Registration Manager  S. Date  Registration Manager  S. Date   | THE PERSON NAMED IN   | Sect   | EL CONTROL DE LA | W 23  | SA KEYNE   | Market School Street   |  |  |
| Explanation: Use additional page(s) if necessary. (For section I and Section III.)  Roundup Herbicide Supplemental label: Wiper applications for common rye in wheat  Section III  1. Material This Product Will Be Packaged in:  Child-Resistant Packaging  Yes  Yes  Yes  Yes  Yos  No. per Package wgt. Plastic Glass  Submitted.  3. Location of Net Contents Information  Label  Container  Various  Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Tild-Agricultural Regulation  Director  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both the package in the form and all attachments thereto are true, accurate and complete thems of the package in the process of the process o | Resubmission in respo   | Final print<br>Agency k  | Final printed labels in response to Agency letter dated  |   |  |  |  |  |
| Explanation: Use additional page(s) if necessary. (For section I and Section III.)  Roundup Herbicide Supplemental label: Wiper applications for common rye in wheat  Section III  1. Material This Product Will Be Packaged In:  Child-Resistant Packaging Unit Packaging Water Soluble Packaging Yes*  No With No With Package wgt No. per Container Package wgt Container Package wgt Container Other (Specify)  Location of Net Contents Information 4. Size(s) of Retail Container Various On Labeling accompanying product Stenciled  Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Told Agricultural Regulation Director  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete items of individual to the container in process this application.)  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete items of individual to the container in process this application. Items of individual to the container in process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this application. Items of individual to be contacted, if necessary, to process this a | Notification - Explain be   | siow.  | Other - ex   | plain below.  | Mayou .  |  |  |  |
| Certification must be submitted.  3. Location of Net Contents Information  Label   |   | Spetio   |  |   | at   |  |  |  |
| Certification must be submitted.  3. Location of Net Contents Information Label Container  Container  4. Size(s) of Retail Container  Various  Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Telephone No. (Include Area Container)  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete items directly below for identification of the contacted in the statement of the contacted in the c | Child-Resistant Packaging   | /ill Be Packaged In:<br>Unit Packaging   | on III   | e in whe  | Type of Con  |  |  |  |
| 3. Location of Net Contents Information Label Container Various  Con Label Container Various  Con Label Container Various  Con Label Con Labeling accompanying product  Lithograph Paper glued Stenciled  Section IV  Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Title Agricultural Regulation Director  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  Signature  Registration Manager  S. Location of Label Directions On Labeling accompanying product  Viny1 glued  Stenciled  Telephone No. (Include Area Complete)  Certification Director  Section IV  Tother (viny1 glued)  Telephone No. (Include Area Complete)  (202) 788-2460  Certification Registration Manager  S. Location of Label Directions On Labeling accompanying product  Viny1 glued  Section IV  Telephone No. (Include Area Complete)  (202) 788-2460  Certification Registration Manager  S. Date  | Child-Resistant Packaging Yes*  | /ill Be Packaged In: Unit Packaging Yes  | Water Soluble Packaging  | e in whe  | Type of Con  | etal stic  |  |  |
| Paper glued Stenciled  Section IV  1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Name  Dr. Russell P. Schneider  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete lacknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  2. Signature  3. Title  Registration Manager  5. Date   | Child-Resistant Packaging Yes*  X No * Certification must be  | /III Be Packaged In: Unit Packaging Yes  X No  If "Yes," No. per   | Water Soluble Packaging Yes X No If "Yes,"   | g 2.  | Type of Con  Me  X Pla  Gla  Pa  | etal<br>istic<br>ass   |  |  |
| 1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)  Name  Dr. Russell P. Schneider  Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete lacknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  2. Signature  3. Title  Registration Manager  5. Date  | * Certification must be submitted.  3. Location of Net Contents  Label  | Vill Be Packaged In: Unit Packaging Yes X No  If "Yes," Unit Package wgt.  Information Variation Variation Variation   | Water Soluble Packaging Yes X No If "Yes," N Package wgt. C  | g 2.  | Type of Con  Me  X Pla  Gla  Pal  Oth  | etal astic ass per ner (Specify)  Directions   |  |  |
| Dr. Russell P. Schneider  Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete both under applicable law.  2. Signature  3. Title Registration Manager  4. Typed Name  Telephone No. (Include Area Complete (202)) 783–2460  6. Date Application Received (Stamped)  6. Date Application Received (Stamped)  | * Certification must be submitted.  3. Location of Net Contents  Label  | Vill Be Packaged In: Unit Packaging Yes X No  If "Yes," Unit Package wgt.  Information Ontainer  Affixed To Product Lithogr Paper  | Water Soluble Packaging Yes X No If "Yes," Package wgt.  Retail Container Ous aph glued  | g 2.  | Type of Con  Me  X Pla  Gla  Pal  Oth  on of Label on Label on Labeling a  | etal sistic ass per ner (Specify)  Directions accompanying product   |  |  |
| I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  2. Signature  3. Title  Registration Manager  4. Typed Name  5. Date  | * Certification must be submitted.  3. Location of Net Contents  Label  Contents  Label  Contents  Contents  Label  Contents  | Vill Be Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer  Affixed To Product  Sect   | Water Soluble Packaging Yes X No If "Yes," Package wgt.  Retail Container Ous aph glued ed   | g 2.  lo. per ontainer  5. Locati   | Type of Con  Me  X Pla  Gla  Pal  Oth  on of Label on Lab | otal stic ass per ner (Specify)  Directions accompanying product ed )  |  |  |
| Skula Aschuetto Registration Manager  5. Date  | * Certification must be submitted. 3. Location of Net Contents  Label Contents  Label Contents  Contact Point (Complete Name  | Unit Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer  Affixed To Product  Affixed To Product  Sect  items directly below for identification   | Water Soluble Packaging Yes X No If "Yes," Package wgt.  Retail Container Ous aph glued ed ion IV of individual to be contact itle Agricultural Retail   | g 2.  lo. per ontainer  5. Locati Cother ( vi:                            | Type of Con  Me X Pla Gla Pal Oth  Con of Label On Label On Label on Labeling a my1 glue  my, to proce  Tele   | etal astic ass per per per (Specify)  Directions accompanying product ed )  ass this application.) ephone No. (Include Area Cod  |  |  |
|  | * Certification must be submitted.  3. Location of Net Contents  Label Sc.  6. Manner In Which Label Is  1. Contact Point (Complete Name  Dr. Russell  I certify that the statement I acknowledge that any king.  | Unit Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Ontainer  Affixed To Product  Affixed To Product  Sect  Items directly below for identification  P. Schneider  Certification  It have made on this form and all at nowingly false or misleading statements. | Water Soluble Packaging Yes X No If "Yes," No Retail Container Ous aph X Container Glued ed Retail Container Ous aph X Container Cous aph X Cous aph X Cous  | g 2.  lo. per ontainer  5. Locati X C X C X C X C X C X C X C X C X C X C | Type of Con  Me  X Pla  Gla  Pal  Ont  on of Label on Lab | bital distic dissic dis |  |  |
| 209  | * Certification must be submitted. 3. Location of Net Contents  Label Contents  Label Contents  Label Contents  Label Russell  1. Contact Point (Complete Name  Dr. Russell  I certify that the statement I acknowledge that any knowledge that any knowledge that any knowledge applicable law | Unit Packaged In:  Unit Packaging  Yes  X No  If "Yes," Unit Package wgt.  Information Affixed To Product  Affixed To Product  Itimos directly below for identification  P. Schneider  Certification  Is I have made on this form and all at nowingly false or misleading statement.               | Water Soluble Packaging Yes X No If "Yes," No Retail Container Ous aph glued ed Ion IV of individual to be contact itle Agricultural R Director Itachments thereto are true ent may be punishable by   | g 2.  lo. per ontainer  5. Locati  The Container vi                       | Type of Con  Me  X Pla  Gla  Pal  Ont  on of Label on Lab | bital distic dissic dis |  |  |

EPA Form 8570-1 (Rev. 12-90)

#### PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

Confidential Statement of Formula (EPA Form 8570-4);
 Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted; 6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections 1, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
  to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

 Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief
explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

Type of Packaging - Citet interappropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.

2. Type of Retail Container - Indicate type of container in which product will be marketed.

3. Location of Wet Contents : Specify the net contents of all retail containers for your product. 4. Size(s) of Retail Container - Specify the net contents of all retail containers for your product.

5. Location of descripted instructions - Indicate the location of the use directions for your product.

6. Manner in which label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products \*egistration, resubmission, "me-too," reregistration, etc. 1-5. Self-explanatory. 6. EPA Use Only.



## United States Environmental Protection Agency Washington, DC 20460

#### CERTIFICATION WITH RESPECT TO DATA COMPENSATION REQUIREMENTS

Form Approved

OMB No. 2070-0108

Approval Expires 12-31-92

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestion for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, DC 20460; and to the Office of Management and Budget, Paperwork Reduction Project (2070-0106), Washington, DC 20503.

| Please fili in bianks b | BIOW. |
|-------------------------|-------|
|-------------------------|-------|

| Company Name      | Company Number      |  |  |  |
|-------------------|---------------------|--|--|--|
| Monsanto Company  | 524 - 445           |  |  |  |
| Chemical Name     | EPA Chemical Number |  |  |  |
| Rounoup Herbicide |                     |  |  |  |

#### Certify that:

- For each study cited in support of registration or reregistration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) that is an exclusive use study, I am the original data submitter, or I have obtained the written permission of the original data submitter to cite that study.
- 2. That for each study cited in support of registration or reregistration under FIFRA that is NOT an exclusive use study. I am the original data submitter, or I have obtained the written permission of the original data submitter, or I have notified in writing the company(ies) that submitted data I have cited and have offered to: (a) Pay compensation for those data in accordance with sections 3(c)(1)(D) and 3(c)(2)(D) of FIFRA; and (b) Commence negotiation to determine which data are subject to the compensation requirement of FIFRA and the amount of compensation due, if any. The companies I have notified are: (check one)
  - [ ] All companies on the data submitters list for the active ingredient listed on this form (Cite-All Method or Cite-All Option under the Selective Method). (Also sign the General Offer to Pay below.)
  - [X] The companies who have submitted the studies listed on the back of this form or attached sheets, or indicated on the attached "Requirements Status and Registrants' Response Form,"
- 3. That I have previously complied with section 3(c)(1)(D) of FIFRA for the studies I have cited in support of registration or reregistration under FIFRA.

| Signature Susua   | S/10/93  |
|---|--|
| Name and Title (Please Type or Print)  Russell P. Schneider | Ag. Regulation Director  |
| egistration or reregistration of my products, to the ex     | to pay compensation to other persons, with regard to the stent required by FIFRA sections 3(c)(1)(D) and 3(c)(2)(D). |
| Signature on one will                                       | 5/10/93  |
| Name and Title (Please Type or Print)  Russell P. Schneiner | As. Regulation Director  |

## Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

May 10, 1993

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor

Product Manager (25)

Subject: Roundup® Herbicide (EPA Reg. No. 524-445)

Supplemental Label: Wiper Applications for Common Rye in Wheat

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label that allows the use of Roundup herbicide with wiper applicators to control common rye in wheat. Various states in the Pacific Northwest have been granted specific exemptions for this use over the past several years under the provisions of Section 18 of FIFRA.

Residue data supporting this use were submitted previously by Monsanto (Accession Nos. 071296 and 073100), along with a petition to establish tolerances on wheat grain at 0.3 ppm, wheat straw at 0.4 ppm, and wheat milling fractions at 1.0 ppm (PP 3F2809 / FAP 5H5450). However, the Agency felt that additional residue data were needed before granting this use. Since this minor use did not warrant further expenditure, in 1991 Monsanto withdrew the tolerance request without prejudice to future filing in accordance with 40 CFR 180.0.

Recently, however, the Agency has proposed higher tolerances on wheat and wheat fractions resulting from the preharvest application of glyphosate (58 FR 26725). These proposed tolerances are 5.0 ppm on wheat grain, 85 ppm on wheat straw, and 20 ppm on wheat milling fractions (excluding flour). Monsanto believes that these proposed tolerances adequately cover any residues that would result from the wiper applicator use.

Monsanto requests that the Agency approve and stamp the enclosed supplemental label so that it becomes effective as soon as the necessary preharvest tolerances on wheat grain, wheat straw and wheat milling fractions (except flour) are established. If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Registration Manager

(314) 694-7248

cc: R.P. Schneider J.A. Mills D.M. Fee-White JUN 1 7 1993

Dr. Sheila A. Schuette
Monsanto Company
The Agricultural Group
700 14th Street, N.W. Suite #1100
Washington, D. C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Reduce PHI For Tree Nuts) EPA Registration No. 524-445 Your Application Dated December 30, 1993

The amendmet referred to above, submitted in connection with registration under FIFRA sec. 3(C)(7)(A), is acceptable provided that you:

- 1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.
- 2. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

The accceptance of your label does not relieve you of any obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR Part 156, subpart K, 200 (c)(3), you are prohibited from distributing or selling any product within the scope of WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely,

Robert J. Taylor Product Manager 25 Fungicide-Herbicide Branch Registration Division (H7505C)

#### SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

#### ROUNDUP°

Herbicide by Monsanto

EPA Reg. No. 524-445

ACCEPTED
with COMMENTS
in EPA Letter Dated:

JUN 1 7 1993

Under the Fadoral Insectives, Fungicide, and Rodanticide Act as amended, for the particide registered under EPA Box No. 524-445

FOR WEED CONTROL IN NUT CROPS UP TO THREE DAYS PRIOR TO HARVEST

Keep out of reach of children.

#### **WARNING!**

n case of an emergency involving this product, Call Collect, day or night, 314) 694-4000.

®Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This supplemental label and the label booklet for Roundup herbicide must be in the possession of the user at the time of herbicide application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES...
SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

#### RECOMMENDATIONS

This product is recommended for weed comtrol in established groves of almonds, beechnuts, Brazil nuts, butternuts, cashews, chestnuts, chinquapins, filberts (hazelnuts), hickory nuts, macademia nuts, pecans, black walnuts and English walnuts. Applications can be made with both boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, or orchard guns, or with wiper applicator equipment.

br specific rates of applications and instructions, see the "WEEDS CONTROLLED" and the "TREE AND VINE CROPS" sections of the Roundup label cooklet.

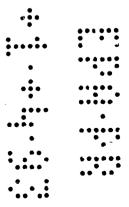
Allow a minimum of 3 days between last application and harvest.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

Monsanto Company 1993

MAP

DNSANTO COMPANY AGRICULTURAL PRODUCTS T. LOUIS, MISSOURI 63167



|      | 2110    | MISSION REVIEW RECORD                                 | 1                              | REGISTRATION NUMBER | J. Sander | CYCLE                |         | TE RECE | IVED   |
|------|---------|---|--------------------------------|---------------------|-----------|----------------------|---------|---------|--------|
|      |         | G   |                                | 124- 4              | 45        |                      | 015     | 1 11    | 917    |
| 3.   | -       | PUBLICATION NECESSARY                                 | 4. PETITIO                     | N NO.               | Alba G    |                      | S. RECI |         | TEAM   |
|      |         | VES NO  | arrent 12                      |                     |           |                      | I MO    | OAY     | Y      |
| 6.   | -       | HOD OF SUPPORT  | 7. PRODUC                      | T MANAGER           |           | No.                  | S. PROJ | ECTEOR  | ETURN  |
| 8    | П       | at the second   | Harris Control                 | 1. 爱多种的             | 1.3       |                      |         | 074     | 78     |
| 9.0  | and the | PULLED 10 DATE PUBLISHED                              | 11. ACTION                     | arrect lise on      |           | CODE                 | 12. OUT |         |        |
|      | 6/      | 10/93   | when                           | 331                 | 10        | le.                  | 1       | 017     | YA     |
| SEQ. | REVIEW  | REVIEW TYPE   | REVIEWER<br>CODE<br>(Initials) | SIGNATURE OF REVIEW | VER       | COM-<br>MENT<br>CODE | DATE A  | EVIEWCO | MPLETE |
|      | A       | REVIEWABILITY TEAM                                    | 11                             |                     |           | A 163                |         | F       | I      |
|      | В       | PRODUCT MANAGER TEAM<br>EFFICACY REVIEW               |                                |                     |           |                      | 2 1     |         | 1      |
|      | С       | PRODUCT MANAGER TEAM                                  | 1                              | 一步编码                | 1         |                      |         | 31      |        |
| En   | D       | PRODUCT MANAGER TEAM EN-<br>VIRONMENTAL SAFETY REVIEW | il                             |                     | 10        | 4                    |         |         |        |
| S    | E       | PRODUCT MANAGER TEAM RESUBMISSION REVIEW              |                                |                     | 18. 1     |                      |         |         |        |
|      | F       | PRODUCT MANAGER                                       |                                |                     | RW        | NAC                  | 06      | 110     | 91.    |
|      | G       | INTERAGENCY REFERRAL                                  | 11                             | Rettierpropose      | el        | in St.               | 8 6     |         |        |
| 3    | н       | COST-BENEFIT REVIEW                                   | 11                             | 5/4/93. compt       | 10.7      |                      |         |         |        |
|      | 1       | PUBLIC COMMENTS REVIEW                                |                                | signed final or     | 2         |                      |         |         |        |
|      | 1       | EFFICACY  | 11                             |                     | 779       | Pri di               | 12      |         |        |
|      | K       | EEE BRANCH HERBICIDE<br>EFFICACY                      |                                |                     | CP 4      |                      | 15      |         |        |
|      | L       | EEE BRANCH FUNGICIDE<br>EFFICACY                      | 113                            |                     | 13        |                      |         | 1       | 1      |
|      | М       | EEE BRANCH RODENTICIDE                                | 1=45                           |                     | 1         |                      | 200     | 1       | 11     |
|      | N       | EFFICACY  |                                | 459                 |           | P P                  | 1       | 1       |        |
|      | 0       | CHEMISTRY BRANCH<br>RESIDUE CHEMISTRY                 | 11                             |                     |           | 2 . 5                |         |         | 1      |
|      | P       | EEE BRANCH ENVIRON -<br>MENTAL CHEMISTRY              | TL                             |                     | Sec       | 3 1                  | 1       | 1       | 1      |
|      | a       | TOXICOLOGY BRANCH                                     | M E                            |                     | 6,5       |                      | 21      | 12      | 1      |
|      | R       | EEE BRANCH ENVIRON-<br>MENTAL SAFETY                  | 11                             | <b>一人</b> 基本分数      |           | 4                    | 11      | 1       |        |
| 1    | s       |   | LK                             |                     | Talas     | 1                    | 1       | 1       |        |
|      | T       |   | 11                             | 4. 体基系形式            |           | ALL T                |         | 1.1     |        |
| 0    | דסטכ    | MANAGER SIGNATURE                                     |                                | TYPE OF RESPONSE    |           |                      |         | -       | CODE   |

EPA Form \$570-13 (3-75)

|      | CITE | MISSION REVIEW RECORD                                 | 1.         | REGISTRATION NUMBER  | CYCLE | 1000    | TE RECE  | CEVI   |
|------|------|---|------------|--|-------|---------|----------|--------|
|      |      | G ALLES   | 1 3        | 24-145   |       | 016     | 0 1 3    | 913    |
| 3.   | 3010 | D PUBLICATION NECESSARY                               | 4. PETITIO | N NO.  |       |         | EIVED PY |        |
|      |      | YES NO  |            |  |       | May     | OAY      | YM     |
| 6.   | MET  | HOO OF SUPPORT  | 7. PRODUC  | TMANAGER   | No.   | S. PRO. | ECTEO R  | ETURN  |
|      |      | 2A 20 20  |            |  | 7     | MO      | 074      | YA     |
| 9.0  | DATE | PULLED 10 DATE PUBLISHED                              | 11. ACTION | PHT In Tour  | CODE  | 12. OUT | GOING D  | ATE    |
| L    | 110  | 0/9>  | Name       | to 3 doup 330  |       | MO      | DAY      | YR     |
|      | W    | 1 2 2 3   | REVIEWER   | THE RESIDENCE OF THE PARTY OF T | сом.  | DATE    | EVIEWCO  | MPLETE |
| SEQ. | TYPE | REVIEW TYPE   | (Initials) | SIGNATURE OF REVIEWER  | MENT  | мо      | DAY      | YA     |
|      | A    | REVIEWABILITY TEAM                                    | 11         | 型 V 等 数  | 3     |         | 1        |        |
| 7.14 | В    | PRODUCT MANAGER TEAM<br>EFFICACY REVIEW               | 10         | 6.242.00   | 3.5   |         | 1        |        |
|      | С    | PRODUCT MANAGER TEAM<br>HUMAN SAFETY REVIEW           | THE        | CARLO CARLO  | 1 ×   | 1       | Park S   |        |
|      | D    | PRODUCT MANAGER TEAM EN-<br>VIRONMENTAL SAFETY REVIEW | 17         |  | 1300  | 1       |          |        |
|      | E    | PRODUCT MANAGER TEAM RESUBMISSION REVIEW              |            |  | 1     | 13      |          |        |
| H    | F    | PRODUCT MANAGER                                       | 11         | view   | MAC   | 06      | 110      | 93     |
|      | G    | INTERAGENCY REFERRAL                                  | 11         | PPN6.2 F 408) proper   | 1     |         |          |        |
|      | н    | COST-BENEFIT REVIEW                                   | 11         | 5/4/93 prolonged   |       | 1       | 1        | 1      |
|      | ı    | PUBLIC COMMENTS REVIEW                                | 11         | y Carret   |       | E L     | F-2      | 1      |
|      | J    | EEE BRANCH INSECTICIDE                                | 11         |  |       | 1       |          |        |
|      | K    | EEE BRANCH HERBICIDE                                  | LI         |  |       | 1       |          |        |
| -    | L    | EEE BRANCH FUNGICIDE                                  | 14         |  |       | 1       | 1        | 1      |
|      | м    | EEE BRANCH RODENTICIDE                                |            |  |       | 1       | T.       | 1      |
|      | N    | EEE BRANCH DISINFECTANT                               | 11         |  | 1     |         | The same |        |
|      | 0    | CHEMISTRY BRANCH<br>RESIQUE CHEMISTRY                 | 11         |  |       |         |          |        |
|      | P    | MENTAL CHEMISTRY                                      | II         | 7 7 7 7 7 7  |       | BI      |          |        |
|      | a    | TOXICOLOGY BRANCH                                     | 11         |  |       |         | 13/1/    |        |
| -    | R    | EEE BRANCH ENVIRON-<br>MENTAL SAPETY                  |            |  |       | 1       | 1        |        |
|      | s    |   |            |  |       | 13      | 1        | 1      |
|      | Т    | A VIII  | Jage.      |  |       | 1       | 1        | 1      |
| oc   | רסטכ | MANAGER SIGNATURE                                     | 1.1.20     | TYPE OF RESPONSE   | Win I | 7       |          | CODE   |

EPA Form 6570-13 (3-75)

Sheila A. Schuette, Ph.D.

EPA Form 8570-1 (Rev. 12-90) Previous editions are obsolete.

5. Date

Dec 30 1992

## **Paperwork Reduction Act Notice and Instructions**

## Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to average of 0.85 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

## Instructions

## General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

- Offer to Pay Statement (EPA Form 8570-22, -23, or -24). (If not exempted by 40 CFR 162.9-1(b).)
- 2. Confidential Statement of Formula (EPA Form 8570-4).
- 3. Five copies of draft labeling.
- 4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on  $8\ 1/2\ x\ 11$  inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an  $8\ 1/2\ x\ 11$  inch file. Mockup labels significantly smaller than  $8\ 1/2\ x\ 11$  inches should be mounted on  $8\ 1/2\ x\ 11$  inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

## Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A , for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Section I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section I - This Section must be completed for both Registration and Amended Registration actions.

- Company/Product Number Insert your company number, if
  one has been assigned. This number may have been assigned
  to you as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration number of the product.
- 2. Date Fill in the appropriate date.
- Product Manager If known, fill in the name and number of the Product Manager.
- Proposed Classification Specify the proposed classification for this product.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in beleast of another party, you must submit authorization from that party to act for them in registration matters.

An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

## Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

 Subject of Amendment - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop"; "to change inert ingredient"; "general label revisions of precautionary statements," etc.

## Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- Type of Retail Container Indicate type of container in which product will be marketed.
- Location of Net Contents Specify the net contents of all retail containers for your product.
- Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- Location of Use Directions Indicate the location of the use directions for your product.
- Manner in which label is affixed to product Indicate the method product labeling is attached to retail container.

## Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
- 6. EPA Use Only.





United States Environmental Protection Agency Washington, DC 20460

SEPA Certification with Respect to Citation of Data

Form Approved OMB No. 2070-0060 Approval Expires 11-30-93

| Applicants Name and Address                           | EPA File Symbol/Registration Number 524-445 |
|---|---|
| Monsanto Company<br>700 14th Street, N.W., Suite 1100 | Product Name Roundup Herbicide              |
| Washington, D.C. 20005                                | Date of Application                         |

NOTE: If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

- 1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approprial of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
- 2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,
  - |X| I am the original submitter\*; or
  - I have obtained the written permission of the original data submitter to cite that study\*
- 3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:
  - a. k | I am the original data submitter\*; or
    - I have obtained the written permission of the original data submitter to cite that study\*; or
  - b. | I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
    - All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the

| General Offer S                         |   |   |       |                   |
|---|---|---|-------|-------------------|
| · 小 · · · · · · · · · · · · · · · · · · | these studies is attached. (Note: a   |   |       | U.UCE 3           |
| Signature Sheila A Schuetto             | Name and Title Sheila A. Schuette Senior Registration Spec                        | Date Cialist Que 30                       | 1992  |                   |
| General Offer to                        | Pay: I hereby offer and agree to pay cond to the approval of this application, to | ompensation to other the extent required. | ,     | a cong            |
| Signature                               | Name and Title  | Date                                      | 1,2,5 | \$10,630<br>c+ 66 |
| PA Form 8570-29 (Rev-7-91)              |   |   | 221   |                   |

## Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to 1.0 hours per response, including time for reviewing instructions, certifying the existence of the appropriate data, and completing and mailing this form. Send comments regarding the burden estimate or any other aspect of this certification process including suggestions for reducing the burden to:

Chief, Information Policy Branch, PM-223
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

and to

Office of Management and Budget
Paperwork Reduction Project (2070-0060)
Washington, DC 20503

and the state of t

"Abute to be elicina" of the page of the control of the page of the start because a great of

as at the state has of motion in the sent in self-sent sentence at the sentence of the

## SECTION III

Glyphosate 40 CFR 150 Data Reference List

| GLYPHOSATE | No. 524-308 |
|------------|-------------|
| MON-2139 / | EPA Reg.    |

| 40 C         | 40 CFR 158.150 - 158.190<br>PRODUCT CHEMISTRY   | DATA<br>REQ'D | EPA<br>REFERENCE<br>NUMBER | SUBMISSION<br>DATE | DOCUMENT<br>NUMBER   | OWNER                | AUTHORIZATION              |
|--------------|---|---------------|----------------------------|--------------------|----------------------|----------------------|----------------------------|
| PRC          | PRODUCT IDENTITY:   |               |                            |                    |                      | · ,                  |                            |
| 61-1         |   | +             | 41228201                   | 68/06/8            | R.D. 953             | Monsanto             |                            |
| 61-1         |   | +             | 263795                     | 98/0٤/9            | R.D. 690             | Monsanto             |                            |
| 7-10         |   | +             | 41228201                   | 8/30/89            | R.D. 953             | Monsanto             |                            |
| 7-10         |   | +             | 263795                     | 6/30/86            | R.D. 690             | Monsanto             | 07<br>1 <b>N</b>           |
| 61-3<br>61-3 | <ul><li>Formation of Impurities (MP)</li><li>Formation of Impurities (EP)</li></ul>     | + +           | 41228201<br>263795         | 8/30/89<br>6/30/86 | R.D. 953<br>R.D. 690 | Monsanto<br>Monsanto | NTA<br>THEF<br>IFOR<br>OMP |
| AN,          | ANAL YSIS AND CERTIFICATION OF INGREDIENTS:   | DIENTS:       |                            |                    |                      |                      | RWIS<br>MAT                |
| 62-1         |   | +             | 41228202                   | 8/30/89            | R.D. 953             | Monsanto             | TRA<br>E C<br>ION          |
| 62-1         |   | +             | 263795                     | 98/06/9            | R.D. 690             | Monsanto             | ON                         |
| 62-7<br>62-2 | <ul><li>2 Certification of Limits (MP)</li><li>2 Certification of Limits (EP)</li></ul> | + +           | 41228202<br>263795         | 8/30/89<br>6/30/86 | K.D. 953<br>R.D. 690 | Monsanto<br>Monsanto | FIU                        |
| 62-3         |   | •             | 41228202                   | 08/02/8            | D D 063              | Monograph            | ECF<br>EN<br>ION           |
| 62-3         |   | ٠             | 7079771                    | coloc lo           | N.D. 203             | Molisalio            | HA                         |
|              | Enforcement of Limits (EP)  | +             | 263795                     | 6/30/86            | R.D. 690             | Monsanto             | L                          |
| PH           | PHYSICAL AND CHEMICAL CHARACTERISTICS:  | TICS:         |                            |                    |                      |                      |                            |
| 63-2         | _   | +             | 263795                     | 6/30/86            | R.D. 690             | Monsanto             |                            |
| 2-50<br>63-3 | 2 Color (EP)<br>3 Physical State (MP & TGAD)  | + +           | 263795                     | 6/30/86<br>6/30/86 | R.D. 690             | Monsanto             |                            |
| 63-3         |   | +             | 263795                     | 6/30/86            | R.D. 690             | Monsanto             | •                          |
|              |   | +             | 263795                     | 98/06/9            | R.D. 690             | Monsanto             | į                          |
| 22           | 4 Odor (EP)   | + +           | 263/95                     | 0/30/80<br>6/1/76  | K.D. 690             | Monsanto             |                            |
|              |   | Z<br>Z        |                            |                    |                      | Cinesion             |                            |
| .63-7        |   | +             | 263795                     | 98/06/9            | R.D. 690             | Monsanto             | 0140.0043                  |
|              |   |               |                            | •                  |                      |                      |                            |

| No. 524-308 |
|-------------|
| No.         |
| Reg.        |
| EPA Re      |
|             |

| CONT.);   CONT   | 40 CF<br>PROD | 40 CFR 158.150 - 158.190<br>PRODUCT CHEMISTRY                    | DATA<br>REQ'D | EPA<br>REFERENCE<br>NUMBER | SUBMISSION DATE                          | DOCUMENT   | OWNER    | AUTHORIZATION |
|--|---------------|--|---------------|----------------------------|--|--|----------|---------------|
| 63-7 Density, Bulk Density 64 Solvidity (CAN of PAJ) 65 Solvidity (CAN of PAJ) 66 Solvidity (CAN of PAJ) 66 Solvidity (CAN of PAJ) 67 Solvidity (CAN of PAJ) 67 Solvidity (CAN of PAJ) 68 Solvidity (CAN of PAJ) 69 Solvidity (CAN | PHYS<br>(CON  | ICAL AND CHEMICAL CHARACTERISTICS                                |               |                            |  |  |          |               |
| 63-8 Solubility (TGAI or PAI)  41096101 5/10/89 R.D. 690 Monsanto 63-9 Vapor Pressure (TGAI or PAI)  41096101 5/10/89 R.D. 690 Monsanto 63-10 Dissociation Coefficient (PAI)  41096101 5/10/89 R.D. 690 Monsanto 63-11 Dissociation Coefficient (PAI)  41096101 5/10/89 R.D. 690 Monsanto 63-12 pH (RP)  63-12 pH (RP)  63-13 Equility (TGAI)  63-14 Oxidizing or Reducing Action (MP)  63-15 Stability (TGAI)  63-15 Talmanability (RP)  63-16 Explocability (RP)  63-16 Explocability (RP)  63-16 Explocability (RP)  63-16 Explocability (RP)  63-17 Storage Stability (RP)  63-18 Viscosity (MP)  63-19 Storage Stability (RP)  63-19 Storage Stability (RP)  63-19 Storage Stability (RP)  63-10 Monsanto  63-10 Explocability (RP)  63-11 Storage Stability (RP)  63-12 Monsanto  63-13 Monsanto  63-14 Monsanto  63-15 Monsanto  63-16 Explocability (RP)  63-17 Storage Stability (RP)  63-18 Viscosity (MP)  63-19 Miscosity (MP)  63-19 Miscosity (MP)  63-10 Miscosity (RP)  63-10 Miscosity (RP)  63-10 Monsanto  63-10 Monsanto  63-11 Discosity (RP)  63-12 Miscosity (RP)  63-13 Miscosity (RP)  63-14 Monsanto  63-15 Miscosity (RP)  63-16 Miscosity (RP)  63-17 Miscosity (RP)  63-18 Viscosity (RP)  63-19 Miscosity (RP)  63-10 Miscosity (RP)  63-11 Miscosity (RP)  63-12 Miscosity (RP)  63-13 Miscosity (RP)  63-14 Miscosity (RP)  63-15 Miscosity (RP)  63-16 Miscosity (RP)  63-17 Miscosity (RP)  63-18 Miscosity (RP)  63-19 Miscosity (RP)  63-10 Miscosity (RP)  63-10 Miscosity (RP)  63-10 Miscosity (RP)  63-10 Miscosity (RP)  63-11 Miscosity (RP)  63-12 Miscosity (RP)  63-13 Miscosity (RP)  63-14 Miscosity (RP)  63-15 Miscosity (R | 63-7          | Density, Bulk Density<br>or Specific Gravity (EP)                | +             | 263795                     | 98/02/9                                  | R.D. 690   | Monsanto |               |
| 63-19 Vagor Presente (TGA for PA1)  4 1096101 5/10/895 R.D. 594 Monsanto 63-11 Octanol/Water Partition Coefficient (PA1)  4 224433 7/30/84 R.D. 181 Monsanto 63-12 pH (MP & TGA))  5 244433 7/30/84 R.D. 181 Monsanto 63-12 pH (MP & TGA)  63-14 Oxidizing or Reducing Action (MP)  63-14 Oxidizing or Reducing Action (MP)  63-15 Stability (TGA)  63-16 Explodability (MP)  63-16 Explodability (MP)  63-16 Explodability (MP)  63-17 Storage Stability (MP)  63-18 Storage Stability (MP)  63-19 Monsanto  63-10 Explodability (MP)  63-11 Storage Stability (MP)  63-12 Storage Stability (MP)  63-13 Storage Stability (MP)  63-14 Oxidizing or Monsanto  63-15 Explodability (MP)  63-16 Explodability (MP)  63-17 Storage Stability (MP)  63-18 Viscosity (MP)  63-19 Monsanto  63-10 Monsanto  63-10 Monsanto  63-10 Monsanto  63-11 Monsanto  63-12 Monsanto  63-13 Monsanto  63-14 Oxidizing or Monsanto  63-15 Monsanto  63-16 Monsanto  63-17 Storage Stability (MP)  63-18 Viscosity (MP)  63-19 Miscibility (MP)  63-10 Monsanto  63-10 Monsanto  63-10 Monsanto  63-11 Monsanto  63-12 Miscibility (MP)  63-13 Miscibility (MP)  63-14 Oxidizing or Monsanto  63-15 Miscibility (MP)  63-16 Miscibility (MP)  63-17 Monsanto  63-18 Viscosity (EP)  63-19 Monsanto  63-10 Monsanto  63-10 Monsanto  63-10 Monsanto  63-11 Monsanto  63-12 Miscibility (MP)  63-13 Monsanto  63-14 Oxidizing or Monsanto  63-15 Miscibility (MP)  63-16 Monsanto  63-17 Monsanto  63-18 Monsanto  63-18 Monsanto  63-19 Monsanto  63-10 Monsan | 63-8          | Solubility (TGAI or PAI)   | +             | 263795                     | 98/08/9                                  | R.D. 690   | Monsanto |               |
| 63-10 Dissociation Constant (TOAI or PAI)  4 263795 65478 R.D. 690 Monsanto 63-12 pH (MP & TGAI)  63-12 pH (MP & TGAI)  63-13 Stability (TGAI)  63-14 Oxidizing or Reducing Action (MP)  63-15 Stability (TGAI)  63-14 Oxidizing or Reducing Action (MP)  63-15 Flammability (TGAI)  63-16 Annuability (TGAI)  63-16 Annuability (TGAI)  63-16 Exploability (EP)  63-17 Storage Stability (MP)  63-17 Storage Stability (MP)  63-18 Storage Stability (MP)  63-19 Storage Stability (MP)  63-10 Storage Stability (MP)  63-11 Storage Stability (MP)  63-11 Storage Stability (MP)  63-12 Storage Stability (MP)  63-13 Storage Stability (MP)  63-14 Oxidizing or Reducing Action (MP)  63-15 Flammability (MP)  63-16 Exploability (EP)  63-16 Exploability (EP)  63-17 Storage Stability (MP)  63-18 Viscosity (MP)  63-19 Miscibility (MP)  63-10 Monsanto  63-10 Monsanto  63-11 Storage Stability (MP)  63-12 Ocrossion Characteristics (MP)  63-13 Miscibility (MP)  63-14 Oxidizing or Reducing Action (MP)  63-15 Flammability (MP)  63-16 Exploability (EP)  63-17 Storage Stability (MP)  63-18 Viscosity (MP)  63-19 Miscibility (MP)  63-10 Miscibility (MP)  63-10 Miscibility (MP)  63-11 Storage Stability (MP)  63-12 Disjectic Breakdown Voltage (EP)  63-13 Miscibility (MP)  63-14 Oxidizing or Reducing Action (MP)  63-15 Disjectic Breakdown Voltage (EP)  63-16 Miscibility (MP)  63-17 Storage Stability (MP)  63-18 Viscosity (MP)  63-19 Miscibility (MP)  63-10 Miscibility (MP)  63-10 Miscibility (MP)  63-10 Miscibility (MP)  64-11 Storage Stability (MP)  64-12 Storage Stability (MP)  64-13 Miscibility (MP)  64-14 Storage Stability (MP)  65-15 Miscibility (MP)  65-16 Miscibility (MP)  65-17 Storage Stability (MP)  65-18 Miscibility (MP)  65-19 Miscibility (MP)  65-10 Miscibilit | 63-9          | Vapor Pressure (TGAI or PAI)                                     | +             | 41096101                   | 5/10/89                                  | R.D. 924   | Monsanto |               |
| 63-11 Cotanol/Water Partition Coefficient (PA) + 224109 6/5/78 R.D. fill Monsanto 63-11 Cotanol/Water Partition Coefficient (PA) + 224109 6/5/78 R.D. fill Monsanto 63-12 pH (EP)  | 63-10         | Dissociation Constant (TGAI or PAI)                              | +             | 263795                     | 98/06/9                                  | R.D. 690   | Monsanto |               |
| 63-12 Dit (MP & 10A1)  4   | 63-11         | Octanol/Water Partition Coefficient (PAI)                        | +             | 234109                     | 8/2/9                                    | R.D. 181   | Monsanto |               |
| 63-14         Oxidizing or Reducing Action (MP)         +         253795         6/30/86         R.D. 690         Monsanto           63-14         Oxidizing or Reducing Action (MP)         +         253795         6/30/86         R.D. 690         Monsanto           63-14         Oxidizing or Reducing Action (EP)         +         253795         6/30/86         R.D. 690         Monsanto           63-15         Flammability (RP)         +         263795         6/30/86         R.D. 690         Monsanto           63-16         Explodability (RP)         +         263795         6/30/86         R.D. 690         Monsanto           63-16         Explodability (RP)         +         263795         6/30/86         R.D. 690         Monsanto           63-16         Explodability (RP)         +         263795         6/30/86         R.D. 690         Monsanto           63-17         Storage Stability (RP)         +         254433         7/30/84         R.D. 690         Monsanto           63-17         Storage Stability (MP)         +         254433         7/30/86         R.D. 690         Monsanto           63-18         Viscosity (MP)         +         253795         6/30/86         R.D. 690         Monsanto  | 63-12         | pH (MP & IGAI)   | +             | 254433                     | 1/30/84                                  | R.D. 542   | Monsanto | 0             |
| Contact   Cont   | 62 12         | ph (EP)  | + -           | 263793                     | 0/30/80                                  | K.D. 690   | Monsanto | TH            |
| 63-15 Flammability (MP) 63-16 Explodability (EP) 63-17 Storage Stability (EP) 63-17 Storage Stability (EP) 63-17 Storage Stability (MP) 63-17 Storage Stability (MP) 63-18 Viscosity (MP) 63-19 Miscibility (MP) 63-19 Miscibility (MP) 63-19 Miscibility (MP) 63-10 Corrosion Characteristics (MP) 63-10 Monsanto 63-10 Monsanto 63-10 Monsanto 63-10 Monsanto 63-10 Monsanto 63-11 Storage Stability (MP) 63-12 Monsanto 63-13 Monsanto 63-14 Miscibility (MP) 63-19 Miscibility (MP) 63-19 Miscibility (MP) 63-10 Little (MP) 63-20 Corrosion Characteristics (MP) 63-30 Corrosion Characteristics (MP) 63-30 Corrosion Characteristics (MP) 63-31 Dielectric Brankdown Voltage (EP) 63-32 Dielectric Brankdown Voltage (EP) 63-32 Dielectric Brankdown Voltage (EP) 63-32 Submittal of Samples (PAI) 63-41 Submittal of Samples (PAI) 63-42 Submittal of Samples (PAI) 63-43 Signed Stability (MP) 63-44 Signed Stability (MP) 63-45 Signed Stability (MP) 63-46 Signed Stability (MP) 63-57 Signed Stability (MP) 63-64 Signed Stability (MP) 63-70 Monsanto 63- | 62 14         | Oxidizing or Deducing Action (AD)                                |               | 262705                     | 130/04                                   | D.D. 542   | Monsanto | IEI<br>OF     |
| 63-15 Flammability (MP) 63-16 Explodability (EP) 63-16 Explodability (EP) 63-16 Explodability (EP) 63-16 Explodability (MP) 63-16 Explodability (MP) 63-16 Explodability (MP) 63-17 Storage Stability (MP) 73-18 Storage Stability (MP) 73-18 Viscosity (MP) 74  | 63-14         | Oxidizing or Reducing Action (FP)                                | + +           | 507596                     | 98/06/9                                  | R.D. 690   | Moneanto | RW<br>RM      |
| 63-15         Flammability (EP)         +         263795         6/30/86         R.D. 690         Monsanto         Op. 73           63-16         Explodability (MP)         +         263795         6/30/86         R.D. 690         Monsanto         2           63-16         Explodability (MP)         +         263795         6/30/86         R.D. 690         Monsanto         2           63-17         Storage Stability (MP)         +         263795         6/30/86         R.D. 690         Monsanto         2           63-17         Storage Stability (EP)         +         263795         6/30/86         R.D. 690         Monsanto         3         2           63-17         Storage Stability (EP)         +         263795         6/30/86         R.D. 690         Monsanto         3         2           63-18         Storage Stability (EP)         +         263795         6/30/86         R.D. 690         Monsanto         4         1           63-18         Viscosity (MP)         +         263795         6/30/86         R.D. 690         Monsanto         4         1           63-19         Miscibility (EP)         +         263795         6/30/86         R.D. 690         Monsanto <td< td=""><td>63-15</td><td>Flammability (MP)</td><td>+</td><td>263795</td><td>98/06/9</td><td>R.D. 690</td><td>Monsanto</td><td>IS<br/>AT</td></td<>   | 63-15         | Flammability (MP)  | +             | 263795                     | 98/06/9                                  | R.D. 690   | Monsanto | IS<br>AT      |
| 63-16 Explodability (MP) Explorage Stability (MP) Explorage Stabi | 63-15         | Flammability (EP)  | +             | 263795                     | 98/06/9                                  | R.D. 690   | Monsanto | E             |
| 63-16         Explodability (EP)         +         263795         6/30/86         R.D. 690         Monsanto         T/2/2           63-17         Storage Stability (MP)         +         254433         7/30/84         R.D. 690         Monsanto         T/2/2           63-17         Storage Stability (MP)         +         253795         6/30/86         R.D. 690         Monsanto         Monsanto           63-17         Storage Stability (PAI)         +         40502665         1/29/88         R.D. 690         Monsanto         Monsanto           63-18         Viscosity (MP)         +         40502605         1/25/88         R.D. 690         Monsanto         Monsanto           63-18         Viscosity (MP)         +         263795         6/30/86         R.D. 690         Monsanto           63-18         Viscosity (MP)         +         263795         6/30/86         R.D. 690         Monsanto           63-18         Viscosity (MP)         +         263795         6/30/86         R.D. 690         Monsanto           63-19         Miscibility (EP)         +         263795         6/30/86         R.D. 690         Monsanto           63-20         Corrosion Characteristics (EP)         +         263795         6/30   | 63-16         | Explodability (MP)   | +             | 263795                     | 98/06/9                                  | R.D. 690   | Monsanto | CC            |
| 63-17         Storage Stability (MP)         +         254433         7/30/84         R.D. 542         Monsanto         CFT CATAGO           63-17         Storage Stability (EP)         +         254433         7/27/90         R.D. 1006         Monsanto         GCT CATAGO           63-17         Storage Stability (EP)         +         40502064         1/29/88         R.D. 690         Monsanto         Monsanto           63-18         Viscosity (MP)         NR         41573501         7/25/90         R.D. 1005         Monsanto         AT           63-18         Viscosity (MP)         NR         263795         6/30/86         R.D. 690         Monsanto         AT           63-18         Viscosity (EP)         +         263795         6/30/86         R.D. 690         Monsanto           63-19         Miscibility (EP)         +         263795         6/30/86         R.D. 690         Monsanto           63-20         Corrosion Characteristics (EP)         +         263795         6/30/86         R.D. 690         Monsanto           63-21         Dielectric Breakdown Voltage (EP)         +         263795         6/30/86         R.D. 690         Monsanto           64-1         Submittal of Samples (PAI)         +         A  | 63-16         | Explodability (EP)   | +             | 263795                     | 98/06/9                                  | R.D. 690   | Monsanto | N             |
| 63-17 Storage Stability (EP)  (In Plants, Animal Products, and Water)  41472002  41472002  41472002  41472002  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  41573501  4157368  R.D. 690  Monsanto  63-20  63-20  63-20  63-20  Corrosion Characteristics (EP)  4  | 63-17         | Storage Stability (MP)   | +             | 254433                     | 7/30/84                                  | R.D. 542   | Monsanto | FII           |
| 63-17         Storage Stability (EP)         +         263795         6/30/86         R.D. 690         Monsanto         Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.Z.   |               |  |               | 41573601                   | 7/27/90                                  | R.D. 1006  | Monsanto | DE            |
| 63-17         Storage Stability (PAI)         +         40502605         1/29/88         R.D. 848         Monsanto         D. 27           (In Plants, Animal Products, and Water)         +         40532004         2/23/88         R.D. 875         Monsanto         A/2/90         R.D. 977         Monsanto           63-18         Viscosity (MP)         +         263795         6/30/86         R.D. 690         Monsanto         A/2/90         R.D. 690         Monsanto           63-19         Miscibility (MP)         NR         263795         6/30/86         R.D. 690         Monsanto         A/2/90         R.D. 690         Monsanto           63-20         Corrosion Characteristics (MP)         +         263795         6/30/86         R.D. 690         Monsanto         A/2/90         A/2/90         R.D. 690         Monsanto           63-20         Corrosion Characteristics (EP)         +         263795         6/30/86         R.D. 690         Monsanto         A/2/90         <  | 63-17         | Storage Stability (EP)   | +             | 263795                     | 98/06/9                                  | R.D. 690   | Monsanto | N             |
| (In Plants, Animal Products, and Water) 40532004 2723/88 R.D. 855 Monsanto 41472002 47290 R.D. 977 Monsanto 41573501 7725/90 R.D. 1005 Monsanto 63-18 Viscosity (MP)   | 63-17         | Storage Stability (PAI)  | +             | 40502605                   | 1/29/88                                  | R.D. 848   | Monsanto | 11/           |
| 63-18 Viscosity (MP) 63-18 Viscosity (MP) 63-19 Miscibility (EP) 63-19 Miscibility (EP) 63-20 Corrosion Characteristics (MP) 63-20 Corrosion Characteristics (MP) 63-20 Corrosion Characteristics (MP) 63-20 Corrosion Characteristics (MP) 63-21 Dielectric Breakdown Voltage (EP) 63-22 Corrosion Characteristics (EP) 63-32 Corrosion Characteristics (MP) 63-34 Corrosion Characteristics (MP) 63-41 Submittal of Samples (PAI) 63-51 Dielectric Breakdown Voltage (EP) 64-1 Submittal of Samples (PAI) 63-63795 64-630/86 64-7 Monsanto 64-1 Monsanto 64-1 Monsanto 64-1 Monsanto   |               | (In Plants, Animal Products, and Water)                          |               | 40532004                   | 2/23/88                                  | R.D. 855   | Monsanto | AL            |
| 63-18         Viscosity (MP)         NR         41573501         7/25/90         R.D. 1005         Monsanto           63-18         Viscosity (MP)         +         263795         6/30/86         R.D. 690         Monsanto           63-19         Miscibility (MP)         NR         1         263795         6/30/86         R.D. 690         Monsanto           63-20         Corrosion Characteristics (MP)         +         263795         6/30/86         R.D. 690         Monsanto           63-20         Corrosion Characteristics (EP)         +         263795         6/30/86         R.D. 690         Monsanto           63-21         Dielectric Breakdown Voltage (EP)         +         263795         6/30/86         R.D. 690         Monsanto           64-1         Submittal of Samples (PAI)         +         Amonsanto         Amonsanto  |               |  |               | 41472002                   | 4/2/90                                   | R.D. 977   | Monsanto |               |
| 63-18 Viscosity (MP)         NR         263795         6/30/86         R.D. 690           63-18 Viscosity (EP)         +         263795         6/30/86         R.D. 690           63-19 Miscibility (MP)         NR         NR         NR           63-20 Corrosion Characteristics (MP)         +         263795         6/30/86         R.D. 690           63-20 Corrosion Characteristics (EP)         +         263795         6/30/86         R.D. 690           63-21 Dielectric Breakdown Voltage (EP)         +         +         263795         6/30/86         R.D. 690           64-1 Submittal of Samples (PAI)         +         +         +         -         -   |               |  |               | 41573501                   | 7/25/90                                  |  | Monsanto |               |
| 63-18         Viscosity (EP)         +         263795         6/30/86         R.D. 690           63-19         Miscibility (MP)         NR         NR         263795         6/30/86         R.D. 690           63-20         Corrosion Characteristics (MP)         +         263795         6/30/86         R.D. 690           63-20         Corrosion Characteristics (EP)         +         263795         6/30/86         R.D. 690           63-21         Dielectric Breakdown Voltage (EP)         NR         +         263795         6/30/86         R.D. 690           64-1         Submittal of Samples (PAI)         +         +         263795         6/30/86         R.D. 690   | 63-18         | Viscosity (MP)   | NR            |                            | S. S | The state of the s |          |               |
| 63-19 Miscibility (EP) 63-20 Corrosion Characteristics (MP) 63-20 Corrosion Characteristics (EP) 63-21 Dielectric Breakdown Voltage (EP) 7 NR 7 263795 6/30/86 R.D. 690 63-21 Dielectric Breakdown Voltage (EP) 7 + 263795 6/30/86 7 - 263795 6/30/86 8 - D. 690 64-1 Submittal of Samples (PAI)   | 63-18         | Viscosity (EP) Miscibility (MP)                                  | + 🛱           | 263795                     | 98/06/9                                  | R.D. 690   | Monsanto |               |
| 63-20 Corrosion Characteristics (MP) + 263795 6/30/86 R.D. 690 63-20 Corrosion Characteristics (EP) + 263795 6/30/86 R.D. 690 63-21 Dielectric Breakdown Voltage (EP) NR + 263795 6/30/86 R.D. 690 64-1 Submittal of Samples (PAI) + +   | 63-19         | Miscibility (EP)   | NR            |                            |  |  |          |               |
| 63-20 Corrosion Characteristics (EP) + 263795 6/30/86 R.D. 690 I<br>63-21 Dielectric Breakdown Voltage (EP) NR + 263795 6/30/86 P.D. 690 I<br>64-1 Submittal of Samples (PAI) + I  | 63-20         | Corrosion Characteristics (MP)                                   | +             | 263795                     | 98/06/9                                  | R.D. 690   | Monsanto | . 1           |
| 64-1 Submittal of Samples (PAI) +  |               | Corrosion Characteristics (EP) Dielectric Breakdown Voltage (EP) | + 🖁           | 263795                     | 6/30/86                                  | R.D. 690   | Monsanto |               |
|  |               | Submittal of Samples (PAI)                                       | +             |                            |  |  | Monsanto |               |

# 40 CFR 158,150 - 158,190 PRODUCT CHEMISTRY

| Data is required only if the technical material is a liquid at room temperature. Glyphosate is a solid. | Data is required if the material is a liquid. Glyphosate is a solid. |
|---|--|
| Boiling Point (TGAI)  | Viscosity (MP)   |
| 63-6  | 63-18  |

Data is required if the material is an emulsifible liquid. Glyphosate is a water-soluble solid.

Data is required is the product is an emulsifible liquid. MON-2139 is a ready-to-use liquid, not to be diluted.

Data is required for liquid products that are used around electrical equipment. When MON-2139 is applied as a herbicide there is virtually no circumstance where it would be in contact with electrical equipment.

Dielectric Breakdown Voltage (EP)

63-21

Miscibility (MP)

63-19

Miscibility (EP)

63-19

CNTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

| OSATE                     |
|---------------------------|
| GLYPHOSATI<br>No. 524-308 |
| MON-2139 /<br>EPA Reg.    |

| 1G:  So - Rat (MP & TGAI)  So - Rat (EP)  LDso (MP & TGAI)  LDso (MP & TGAI)  in LCso - Rat (MP & TGAI)  ion LCso - Rat (MP & TGAI)  y Eye Irritation - Rabbit (MP)  y Eye Irritation - Rabbit (EP)  y Dermal Irritation (MP)  y Dermal Irritation (MP)  al Sensitization (MP)  al  | 40 CFR 158.340   | DATA<br>REO'D | EPA<br>REFERENCE<br>NUMBER                | SUBMISSION DATE    | DOCUMENT   | OWNER                            | AUTHORIZATION |
|--|--|---------------|---|--------------------|--|----------------------------------|---------------|
| - Rat (MP & TGA) - Fat  | TOXICOLOGY   |               |   |                    |  |                                  |               |
| Oral LD50 - Rat (MP & TGAI)  Oral LD50 - Rat (BP)  Dermal LD50 (EP)  Inhalation LC50 - Rat (BP)  Financy Dermal Indiaton Rabbit (MP)  Primary Eye Irritation - Rabbit (MP)  Primary Eye Irritation - Rabbit (MP)  Primary Eye Irritation (RP)  P | ACUTE TESTING:   |               | 41400601                                  | 2/6/90             |  | Monsanto                         |               |
| Dermal LDs0 (APP & TGAJ)         +         00116581         972475         R.D. 65         Monsanto           Dermal LDs0 (APP & TGAJ)         +         00108120         372282         R.D. 414         Monsanto           Inhalation LCs0 - Rat (APP & TGAJ)         +         0249301         247382         R.D. 414         Monsanto           Inhalation LCs0 - Rat (APP & TGAJ)         +         41400603         27482         R.D. 414         Monsanto           Primary Eye Irritation - Rabbit (APP)         +         41400603         27482         R.D. 976         Monsanto           Primary Eye Irritation - Rabbit (BP)         +         41400604         27690         R.D. 976         Monsanto           Primary Dermal Irritation (BP)         +         41400604         27690         R.D. 976         Monsanto           Primary Dermal Irritation (BP)         +         41400604         27690         R.D. 976         Monsanto           Dermal Sensitization (BP)         +         41400604         27690         R.D. 976         Monsanto           Acute Delayed Neurotoxicity - Hen (TGAJ)         +         40559401         371678         R.D. 108         Monsanto           CCHRONIC TESTING:         +         405094         171274         R.D. 51         Monsanto </td <td>Oral LD50 - Rat (MP &amp; TGAI)<br/>Oral LD50 - Rat (EP)</td> <td>+ + +</td> <td>00116580</td> <td>9/24/82</td> <td>4</td> <td>Monsanto</td> <td></td>   | Oral LD50 - Rat (MP & TGAI)<br>Oral LD50 - Rat (EP)  | + + +         | 00116580                                  | 9/24/82            | 4  | Monsanto                         |               |
| Inhalation LC50 - Rat (RP & TGAI)  | Dermal LD50 (MP & TGAI) Dermal LD50 (EP)   | + 4           | 00116581                                  | 8/22/75            |  | Monsanto                         |               |
| Primary Eye Irritation - Rabbit (MP) Primary Eye Irritation - Rabbit (MP) Primary Dermal Irritation (MP) Primary Dermal Irri | Inhalation LC50 - Rat (MP & TGAI)<br>Inhalation LC50 - Rat (EP)                                      | + +           | 249301                                    | 3/22/82<br>1/19/83 | R.D. 414<br>R.D. 976   | Monsanto                         | NEO           |
| Primary Eye Irritation (APD) Primary Dermal Irritation (APD) Acute Delayed Neurotoxicity - Hen (TGAJ) Acute Delayed Neurotoxici | Primary Eye Irritation - Rabbit (MP)   | + +           | 41400603                                  | 11/8/90            | R.D. 1021<br>R.D. 976  | Monsanto                         | RMA           |
| Dermal Sensitization (MP)  | Primary Eye Irritation - Kabbit (Er.) Primary Dermal Irritation (MP) Primary Dermal Irritation (EP.) | + + 8         | 41400604<br>00116583<br>00137138          | 9/24/82 12/20/83   | The same of the sa | Monsanto<br>Monsanto<br>Monsanto | SE CO         |
| Rodent (TGAI)         +         40559401         3/16/88         R.D. 860         Monsanto           Nonrodent (TGAI)         +         94161         7/12/74         R.D. 51         Monsanto           GAI)         +         00098460         3/22/82         R.D. 51         Monsanto           GAI)         +         00067045         7/12/74         R.D. 51         Monsanto           IP)         NR         NR         R.D. 51         Monsanto           icity - Hen (TGAI)         NR         R.D. 51         Monsanto           icity - Hen (TGAI)         NR         R.D. 1014         Monsanto           - Rodent (TGAI)         +         41728701         R.D. 1014         Monsanto  | 7 14   | (Z) + (E) (E) | 00034137                                  | 9/12/12            | R.D. 108   | Monsanto                         | NFIDENTI      |
| 90-Day Feeding - Rodent (TGAI)  90-Day Feeding - Nonrodent (TGAI)  21-Day Dermal (TGAI)  21-Day Dermal (TGAI)  90-Day Feeding - Nonrodent (TGAI)  90-Day Dermal (TGAI)  90-Day Dermal (TGAI)  90-Day Dermal (TGAI)  90-Day Neurotoxicity - Hen (TGAI)  90-Day Neurotoxicity - Hen (TGAI)  90-Day Neurotoxicity - Mammal (TGAI)  80-Day Neurotoxicity - Mammal (TGAI)  90-Day Neurotoxicity - Mammal (TGAI)  112/17/90  8.D. 1014  Monsanto  H.D. 1014  Monsanto  R.D. 1014  Monsanto   | SCHRONIC TESTING:  |               | 40559401                                  | 3/16/88            |  | Monsanto                         | AL            |
| (TGAI)  NR  Oxicity - Hen (TGAI)  NR  Oxicity - Hen (TGAI)  NR  NR  + 41643801  + 41643801  + 41728701    12/17/90   R.D. 1014   Monsanto   R.D. 1014   R.D. 1014   Monsanto   R.D. 1014   Monsanto   R.D. 1014   Monsanto   R.D. 1014   Monsanto   R.D. 1014   R.D. 1014   Monsanto   R.D. 1014   Monsanto   R.D. 1014   Monsanto   R.D. 1014   R.D. 1014   Monsanto   R.D. 1014   R.D. | 0.656  | ++++          | 94161<br>00098460<br>00067045<br>00067046 |                    | R.D. 51<br>R.D. 51<br>R.D. 51<br>R.D. 51<br>R.D. 51  | Monsanto<br>Monsanto<br>Monsanto |               |
| ng - Rodent (TGAI) + 41643801 9/26/90 R.D. 1014 Monsanto 12/17/90 R.D. 1014 Monsanto   |  | ****          |   |                    |  |                                  |               |
|  | HRONIC TESTING:<br>3-1 Chronic Feeding - Rodent (TGAI)   | +             | 41643801                                  |                    | R.D.<br>R.D.   | Monsante                         |               |

| PHOSATE | 524-308 |
|---------|---------|
| GLY     | No.     |
| 39 /    | Reg.    |
| MON-21  | EPA     |

| 40 CF<br>TOXIG | 40 CFR 158.340<br>TOXICOLOGY                                 | DATA    | EPA<br>REFERENCE<br>NUMBER | SUBMISSION<br>DATE             | DOCUMENT   | OWNER                            | AUTHORIZATION     |
|----------------|--|---------|----------------------------|--------------------------------|--|----------------------------------|-------------------|
| CHRC           | CHRONIC TESTING (CONT.):                                     | X J     |                            |                                |  |                                  |                   |
| 83-1           | Chronic Feeding - Nonrodent (TGAI)                           | +       | 00153374                   | 10/17/85                       |  | Monsanto                         | The second second |
| 83-2           | Oncogenicity Study - Rat (TGAI)                              | +       | 41643801                   | 9/26/90                        |  | Monsanto                         |                   |
| 83-2           | Oncogenicity Study - Mouse (TGAI)                            | +       | 251007-14<br>00150564      | 12/11/90<br>7/29/83<br>10/7/85 | R.D. 480<br>R.D. 480<br>R.D. 635   | Monsanto<br>Monsanto<br>Monsanto | 0°                |
| 83-3           | Teratology - Rat (TGAI)                                      | +       | 242516                     | 5/13/80                        |  | Monsanto                         | THER              |
| 83-3           | Teratology - Rabbit (TGAI) Reproduction, 2-Generation (TGAI) | ++      | 242516<br>41621501         | 5/13/80<br>5/13/80<br>8/30/90  | The state of the s | Monsanto<br>Monsanto             | MATIO             |
| MUT            | MUTAGENICITY TESTING:  |         |                            |                                |  |                                  | CON               |
| 84-2           | Gene Mutation (TGAI)   | +       | 238233                     | 4/20/79                        |  | Monsanto                         | SECF<br>FIDEN     |
| 84-2           | Chromosomal Aberration (TGAI)                                | *       | 252487                     | 5/13/80                        | 200  | Monsanto                         | TIAL              |
| 844            | Other Mechanisms of Mutagenicity (TGAI)                      |         | 238233<br>251737           | 11/4/83<br>4/20/79<br>11/4/83  | R.D. 236<br>R.D. 504   | Monsanto<br>Monsanto<br>Monsanto |                   |
| SPEC           | SPECIAL TESTING:   |         |                            |                                |  |                                  |                   |
| 85-1           | General Metabolism (PAIRA)                                   |         | 93849                      | 11/12/73                       | R.D. 47<br>R.D. 47   | Monsanto                         |                   |
| 85-2<br>86-1   | Dermal Penetration<br>Domestic Animal Safety                 | NR (NR) | 40767101-2                 | 8/11/88<br>12/20/83            |  | Monsanto                         | +                 |

NR = Not Required / See Explanation Sheet (NR) = Not Required, but studies were performed

40 CFR 158.340 TOXICOLOGY

|      | -  |  |
|------|--|--|
| 91-6 | Dermal Sensitization (MP)                | Data is required if repeated contact with human skin is expected. Glyphosate is not used in a manner where such contact is likely.   |
| 81-7 | Acute Delayed Neurotoxicity - Hen (TGAI) | Not required unless test material is an organophosphate, or a metabolite or degradation product which causes acetyl cholinesterase depression, or is structurally related to a substance that causes delayed neurotoxicity. Glyphosate does not trigger this requirement.  |
| 82-3 | 90-Day Dermal (TGAI)                     | Data is required if use involves purposeful dermal application to, or prolonged exposure of, human skin; or if pesticidal use will involve purposeful application to human skin or will result in comparable human exposure to the product (e.g., swimming pool algaecides, pesticides for impregnating clothing) and if either of the following criteria are met: |
|      |  | i) Data from a subchronic oral study are not required; or  |
|      |  | ii) The active ingredient of the product is known or expected to be metabolized differently by the dermal route of exposure than by the oral route, and a metabolite of the active ingredient is the toxic moiety.   |
|      |  | Glyphosate does not trigger this requirement.  |
| 82.4 | 90-Day Inhalation - Rat (TGAI)           | Data is required if the use may result in repeated inhalation exposure at a concentration likely to be toxic. The use pattem for glyphosate does not warrant this testing.   |
| 82-5 | 90-Day Neurotoxicity - Hen (TGAI)        | Data is required if acute delayed neurotoxicity test showed neuropathy or neurotoxicity, or if closely related structurally to a compound which can induce these effects. Glyphosate does not cause acute neurotoxicity.   |
| 82-5 | 90-Day Neurotoxicity - Mammal (TGAI)     | Data is required if acute oral, dermal or inhalation studies showed neuropathy or neurotoxicity. Glyphosate does not trigger this testing.   |
| 86-1 | Domestic Animal Safety                   | Required on a case-by-case basis. The known properties of glyphosate and the registered uses do not warrant this testing.  |

CONTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

229

MON-2139 / GLYPHOSATE EPA Reg. No. 524-308

| AUTHORIZATION                                    |                              |  | 0  | ONT/<br>THEI<br>NFOR<br>OMP/ | RWI                         | SE<br>TIO                   | RA<br>CO<br>N |            | -10  | E   |          | IA  | L                | )R<br>O                   |  |                          |                                      |          |            | •   |
|--|------------------------------|--|--|------------------------------|-----------------------------|-----------------------------|---------------|------------|--|---|----------|---|------------------|---------------------------|--|--------------------------|--------------------------------------|----------|------------|---|
| OWNER  | · <b>;</b>                   | Monsanto<br>Monsanto                             | Monsanto   |                              | Monsanto                    | Monsanto                    | Monsanto      | Monsanto   | Monsanto   | Monsanto  | Monsanto | Monsanto                                    | Monsanto         | Monsanto                  |  | Monsanto                 | Monsanto                             | Monsanto | Monsanto   |   |
| DOCUMENT<br>NUMBER                               |                              | R.D. 51  | R.D. 211   |                              | R.D. 51                     | R.D. 215<br>R.D. 51         | R.D. 350      | R.D. 862   | R.D. 215   | R.D. 51   | R.D. 350 | R.D. 51                                     | R.D. 215         | R.D. 453                  |  | R.D. 220                 | R.D. 51                              | R.D. 220 | R.D. 955   |   |
| SUBMISSION<br>DATE                               |                              | 3/1/78<br>7/12/74                                | 11/13/78   |                              | 7/12/74                     | 11/28/78                    | 3/30/81       | 3/25/88    | 11/28/78   | 7/12/74   | 3/30/81  | 7/12/74                                     | 11/28/78         | 12/20/82                  |  | 12/22/78                 | 7/12/74                              | 12/22/78 | 68/5/6     |   |
| EPA<br>REFERENCE<br>NUMBER                       |                              | 00108204<br>94171                                | 235924   |                              | 94171                       | 97661                       | 00070894-7    | 40579201-3 | 97661  | 1712  | 00070893 | 1212<br>1213                                | 199/6            | 249159-60                 |  | 97759                    | 24171                                | 97762    | 41228300-2 |   |
| DATA<br>REQ'D                                    |                              | + + 5  | ž + ž  |                              | +                           | +                           | •             |            | +  | +   |          | +   |                  | +                         |  | +                        | +                                    |          |            | Z.  |
| 40 CFR 158.490<br>WILDLIFE AND AQUATIC ORGANISMS | AVIAN AND MAMMALIAN TESTING: | Avian Oral LD50 (TGAI) Avian Dietary LC50 (TGAI) | Wild Mammal Toxicity (TGAI) Avian Reproduction (TGAI) Simulated and Actual Field Testing - Mammals and Birds (TEP) | AQUATIC ORGANISM TESTING:    | Freshwater Fish LC50 (TGAI) | Brochwater Eich I Cen (TEP) |               |            | Acute LC <sub>50</sub> Freshwater Invertebrates (TGAI) | Acute LC <sub>50</sub> Freshwater Invertebrates (TEP) |          | Acute LC <sub>50</sub> Estuarine and Marine | Organisms (TGAI) | Fish Early Life Stage and | Aquatic Invertebrate Life-Cycle (TGAI) | Fish - Life-Cycle (TGAI) | Aquatic Organism Accumulation (TGAI) |          |            | Simulated or Actual Field Testing - Aquatic Organisms (TEP) |
| 40 CFI<br>WILDI                                  | AVIA                         | 71-17  | 71-3<br>71-4<br>71-5   | AQUA                         | 72-1                        | 72.1                        | 1.21          |            | 72-2   | 72-2  |          | 72-3  |                  | 73-4                      |  | 72-5                     | 72-6                                 |          |            | 72-7  |

NR = Not Required / See Explanation Sheet

# 40 CFR 158,490 WILDLIFE AND AOUATIC ORGANISMS

Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental characteristics. Results from other glyphosate studies have not triggered this requirement. Wild Mammal Toxicity (TGAI) 71-3

Simulated and Actual Field Testing -

71-5

Mammals and Birds (TEP)

Simulated or Actual Field Testing -

72-7

Aquatic Organisms (TEP)

- Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental characteristics. Results from other glyphosate studies have not triggered this requirement.
- Results of tier one and tier two studies with Roundup and glyphosate demonstrate that these materials have a low level of toxicity to aquatic species. Results from other studies have not triggered this requirement.

CONTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

## MON-2139 / GLYPHOSATE EPA Reg. No. 524-308

| 40 CF                   | 40 CFR 158.540<br>PLANT PROTECTION   | DATA<br>REQ'D | EPA<br>REFERENCE<br>NUMBER | SUBMISSION DATE | DOCUMENT              | OWNER    | AUTHORIZATION  |
|-------------------------|--|---------------|----------------------------|-----------------|-----------------------|----------|----------------|
| TARG                    | TARGET AREA PHYTOTOXICITY  |               |                            |                 |                       | 香香       | Charles School |
| 121-1                   | 121-1 Target Area Phytotoxicity (TEP)  | N.            |                            |                 |                       |          |                |
| NON                     | NONTARGET AREA PHYTOTOXICITY   |               |                            |                 |                       |          |                |
|                         | TER I:   |               |                            |                 |                       |          |                |
| 122-1<br>122-1<br>122-2 | Seed Germination/Seedling Emergence (TGAI) Vegetative Vigor (TGAI) Aquatic Plant Growth (TGAI)           | + 🛱 -         | 40159301                   | 4/10/87         | R.D. 767              | Monsanto |                |
|                         | TIER II:   |               |                            |                 |                       |          |                |
| 123-1                   | Seed Germination/Seedling Emergence (TGAI) Vegetative Vigor (TGAI)                                       | <u>K</u> +    | 40236901-5                 | 6/12/87         | R.D. 779-             | Monsanto |                |
| 123-2                   | Aquatic Plant Growth (TGAI)  | •             | 40236901-5                 | 6/12/87         | R.D. 779-<br>R.D. 783 | Monsanto |                |
|                         | TIER III:  |               |                            |                 | 4.0                   |          |                |
| 124-1                   | Terrestrial Field (TEP) Aquatic Field (TEP)  | K K           |                            |                 |                       |          |                |
|                         | <sup>1</sup> Tier I Aquatic Plant Growth studies were combined with Tier II Aqatic Plant Growth studies. | bined with T  | ier II Agatic Plant Gr     | rowth studies.  |                       |          |                |

NR = Not Required / See Explanation Sheet

CONTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

0220:0049

## 40 CFR 158.540 PLANT PROTECTION

- 121-1 Target Area Phytotoxicity (TEP)
- 123-1 Tier II Seed Germination / Seedling Emergence (TGAI)
- 123-1 Tier II Vegetative Vigor (TGAI)
- 124-1 Tier III Terrestrial Field (TEP)
- 124-2 Tier III Aquatic Field (TEP)

Data are required only for Special Review and certain public health situations.

Required if >25% detrimental effect in one or more plant species was found in the corresponding Tier I test. Glyphosate does not trigger this requirement. Required if ≥25% detrimental effect in one or more plant species was found in the corresponding Tier I test. Glyphosate does not trigger this requirement. Required if ≥25% detrimental effect in one or more plant species was found in the corresponding Tier II test. Glyphosate does not trigger this requirement. Required if >50% detrimental effect on any plant species was found in the corresponding Tier II test. Glyphosate does not trigger this requirement.

OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

## MON-2139 / GLYPHOSATE EPA Reg. No. 524-308

| 40 CFR 158.590<br>NONTARGET INSECT  | DATA<br>REQ'D | EPA<br>REFERENCE<br>NUMBER | SUBMISSION DATE | DOCUMENT | OWNER    | AUTHORIZATION |
|---|---------------|----------------------------|-----------------|----------|----------|---------------|
| POLLINATORS:  |               | 13                         |                 |          | 7        |               |
| 141-1 Honeybee Acute Contact Toxicity (TGAI) 141-2 Honeybee - Toxicity of Residues  | + 🛱           | 94171                      | 1/12/14         | R.D. 51  | Monsanto |               |
| on Foliage (1EF) 141-4 Honeybee Subacute Feeding Study (TEP) 141-5 Field Testing for Pollinators (TEP)  | - <u>R</u>    |                            |                 |          |          |               |
| AQUATIC INSECTS:  |               |                            |                 |          |          |               |
| <ul> <li>142-1 Acute Toxicity to Aquatic Insects</li> <li>142-2 Aquatic Insect Life-Cycle Study</li> <li>142-3 Simulated or Actual Field Testing for Aquatic Insects</li> </ul> | 222           |                            |                 |          |          |               |
| PREDATORS AND PARASITES:  |               |                            |                 |          |          |               |
| 143-1 thru 143-3  | 2             |                            |                 |          |          |               |

<sup>&</sup>lt;sup>1</sup> Reserved pending development of test methodology.
<sup>2</sup> Reserved pending further evaluation to determine what and when data should be required, and to develop appropriate test methods.

0240:0049

JIHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY NR = Not Required / See Explanation Sheet

## 40 CFR 158,590 NONTARGET INSECT

141-2 Honeybee - Toxicity of Residues on Foliage (TEP)

As data from acute study indicate very low toxicity, no further testing is required.

51-5 Field Testing for Pollinators (TEP)

As data from acute study indicate very low toxicity, no further testing is required.

ONTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

| GLYPHOSATE | No. 524-308 |
|------------|-------------|
| -2139 /    | Reg.        |
| MON-2      | EPA         |

|                  | <b>AUTHORIZATION</b> |
|------------------|----------------------|
|                  | OWNER                |
| DOCUMENT         | NUMBER               |
| SUBMISSION       | DATE                 |
| EPA<br>REFERENCE | NUMBER               |
| DATA             | REQ'D                |
| 40 CFR 158.390   | REENTRY PROTECTION   |

٠,

| REENT | REENTRY PROTECTION        | REQ'D   |
|-------|---------------------------|---------|
| REENT | REENTRY PROTECTION:       |         |
| 132-1 | Foliar Dissipation (TEP)  | Ä       |
| 132-1 | Soil Dissipation (TEP)    | AN<br>R |
| 133-3 | Dermal Exposure (TEP)     | X.      |
| 1334  | Inhalation Exposure (TEP) | æ       |

NR = Not Required / See Explanation Sheet

CONTAINS TRADE SECRET OR CHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

## 40 CFR 158,390 REENTRY PROTECTION

132-1 thru 133-4

MON-2139 herbicide (glyphosate) is not applied to growing crops or to soil. It is applied to undesirable grass and broadleaf weeds to control or otherwise mitigate their growth or competition with turf or ornamentals. It is unlikely that people would contact such treated vegetation on a regular or extended basis.

Based on the known low toxicity of glyphosate and MON-2139 and the minimal exposure from present use patterns, no reentry restrictions have been required and no additional dermal or inhalation studies have been requested.

CELAINS INAUE SECRET OR JTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO

| GLYPHOSATE | No. 524-308 |
|------------|-------------|
| MON-2139 / | EPA Reg.    |

| 40 CFR 158.290<br>ENVIRONMENTAL FATE   | DATA<br>REQ'D  | EPA<br>REFERENCE<br>NUMBER           | SUBMISSION<br>DATE                     | DOCUMENT<br>NUMBER                         | OWNER  | AUTHORIZATIO    |
|--|----------------|--------------------------------------|--|--|--|-----------------|
| DEGRADATION STUDIES - LAB:   |                |                                      |  |  |  |                 |
| 161-1 Hydrolysis (TGAI or PAIRA)   | +              | 234109                               | 8/2/18                                 | R.D. 181                                   | Monsanto                                     |                 |
| PHOTODEGRADATION:  |                |                                      |  |  |  |                 |
| 161-2 In Water (TGAI or PAIRA)<br>161-3 On Soil (TGAI or PAIRA)<br>161-4 In Air (TGAI or PAIRA)  | + + X          | 41689101<br>41355101                 | 11/1/90                                | R.D. 1020<br>R.D. 972                      | Monsanto<br>Monsanto                         |                 |
| METABOLISM STUDIES - LAB:  |                |                                      |  |  |  | NF(COM          |
| <ul> <li>162-1 Aerobic Soil (TGAI or PAIRA)</li> <li>162-2 Anaerobic Soil (TGAI or PAIRA)</li> <li>162-3 Anaerobic Aquatic (TGAI or PAIRA)</li> <li>162-4 Aerobic Aquatic (TGAI or PAIRA)</li> </ul> | + 🛱 + +        | 41742901<br>41723701<br>41723601     | 1/3/91<br>12/7/90<br>12/7/90           | R.D. 1031<br>R.D. 1029<br>R.D. 1030        | Monsanto<br>Monsanto<br>Monsanto<br>Monsanto | PANY            |
| MOBILITY STUDIES:  |                |                                      |  |  |  | ONF             |
| 163-1 Leaching and Adsorption/Desorption (TGAI or PAIRA)   | +              | 95789 234109                         | 7/12/74<br>6/5/78                      | R.D. 51<br>R.D. 181                        | Monsanto<br>Monsanto                         | IDENTI<br>MONSA |
| 163-2 Volatility - Lab (TEP)<br>163-3 Volatility - Field (TEP)   | + <del>Z</del> | 234109                               | 6/5/78                                 | R.D. 181                                   | Monsanto                                     | ANTO            |
| DISSIPATION STUDIES - FIELD:   |                |                                      |  |  | . *  |                 |
| 164-1 Soil (TEP)   | +              | 95789<br>95790<br>264332<br>00162922 | 7/12/74<br>7/12/74<br>8/6/86<br>8/7/86 | R.D. 51<br>R.D. 51<br>R.D. 696<br>R.D. 697 | Monsanto<br>Monsanto<br>Monsanto<br>Monsanto | ; <b>t</b>      |
| 164-2 Aquatic Sediment (TEP)   | +              | 41096103<br>95790<br>40881601        | 5/10/89<br>7/12/74<br>11/9/88          | R.D. 924<br>R.D. 51<br>R.D. 898            | Monsanto<br>Monsanto<br>Monsanto             |                 |

0280:0049

238

MON-2139 / GLYPHOSATE EPA Reg. No. 524-308

| AUTHORIZATION                        |  |   |  |
|--------------------------------------|--|---|--|
| OWNER                                | Monsanto<br>Monsanto<br>Monsanto<br>Monsanto<br>Monsanto             |   | Monsanto<br>Monsanto<br>Monsanto<br>Monsanto<br>Monsanto   |
| DOCUMENT                             | R.D. 379<br>R.D. 379<br>R.D. 379<br>R.D. 506<br>R.D. 697<br>R.D. 993 |   | R.D. 991<br>R.D. 141<br>R.D. 856<br>R.D. 220   |
| SUBMISSION DATE                      | 9/29/81<br>2/1/82<br>6/17/83<br>11/18/83<br>8/7/86<br>6/2/90         |   | 6/29/90<br>10/14/77<br>2/23/88<br>12/22/78   |
| EPA<br>REFERENCE<br>NUMBER           | 00084657<br>246658<br>00162923<br>00134008<br>00162923<br>41552801   |   | 41543201-2<br>96398<br>40541305<br>97762   |
| DATA<br>REQ'D                        | *  | 爱爱  | +++++  |
| 40 CFR 158.290<br>ENVIRONMENTAL FATE | DISSIPATION STUDIES - FIELD (CONT.): 164-3 Forestry (TEP)            | 164-4 Combination and Tank Mixes<br>164-5 Soil, Long-Term (TEP) | ACCUMULATION STUDIES: 165-1 Rotational Crops - Confined (PAIRA) 165-2 Rotational Crops - Field (TEP) 165-3 Irrigated Crops (TEP) 165-4 In Fish (TGAI or PAIRA) 165-5 In Aquatic Non-target Organisms (TEP) |

NR = Not Required / See Explanation Sheet

COMPANY
COMPANY
COMPANY
COMPANY

## 40 CFR 158.290 ENVIRONMENTAL FATE

Anaerobic Soil (TGAI or PAIRA)

162-2

Glyphosate is not applied as an aerosol or mist, and is not applied over orchard or vegetable crops. Photodegradation In Air (TGAI or PAIRA) 1614

Not required if anaerobic aquatic metabolism study has been conducted.

Glyphosate is essentially non-volatile and, therefore, does not require field volatility testing.

The Agency has not requested any specific studies. However, glyphosate tank mix residue data are available under the 40 CFR 158.240 Residue Data section of this data package.

Required if pesticide residues do not dissipate readily in soil. Glyphosate has a sufficiently short half-life in soil that this study has not been required.

Soil Dissipation, Long-Term (TEP)

164-5

Combination and Tank Mixes

<u>1</u>24

163-3 Volatility - Field (TEP)

CONTAINS TRADE SECRET OR INFORMATION OF MONSANTO OTHERWISE CONFIDENTIAL COMPANY

030070049

| 171-2   Chemical Identity (TGAI)   | O CFR<br>RESIDI      | 0 CFR 158.240<br>RESIDUE CHEMISTRY   | DATA<br>REQ'D | EPA<br>REFERENCE<br>NUMBER             | SUBMISSION DATE                | DOCUMENT<br>NUMBER               | OWNER                            | AUTHORIZATION |
|--|----------------------|--|---------------|--|--------------------------------|----------------------------------|----------------------------------|---------------|
| Plants (PAIRA)   | 171-2                | Chemical Identity (TGAI) Directions for Use  | 1+            | 41228201                               | 8/30/89                        | R.D. 953                         | Monsanto                         |               |
| Plants (PAIRA)   | NATO                 | RE OF THE RESIDUE:   |               |  |                                |                                  |                                  |               |
| -Animals + 40541303 1/29/88 R.D. 849 Monsanto - Animals + 40541303 2/23/88 R.D. 856 Monsanto - Water + Appendix B + Appendix C + Appendix B + Appendix B + Appendix B - Appendix B + Appendix B - Append | 4171                 | Plants (PAIRA) Livestock (PAIRA and Plant Metabolites) Residue Analytical Method - Plants (TGAI and Metabolites) | +++           | Appendix A 40541301-2 364040 00164729  | 2/23/88<br>7/24/79<br>10/20/86 | R.D. 856<br>R.D. 251<br>R.D. 707 | Monsanto<br>Monsanto<br>Monsanto | (             |
| - Water + 00159419 5/19/86 R.D. 677 Monsanto AND TOTAL Appendix B + Appendix C + Appendix C + Appendix C + Appendix B + Ap | 1714                 | Residue Analytical Method - Animals  | +             | 40541303                               | 2/23/88                        | R.D. 856                         | Monsanto                         | NFO           |
| Appendix B   | 1714                 | (10A) and Metabolites) Residue Analytical Method - Water (TGAI and Metabolites)                                  | +             | 00159419                               | 5/19/86                        | R.D. 677                         | Monsanto                         | RWISE         |
| Crop Field Trials (TEP)  Hocessed Food/Feed (EP)  Homeanly Field Trials (TEP)  Homeanly Field Trials (T | MAGN                 | VITUDE OF THE RESIDUE:   |               |  |                                |                                  |                                  | CO            |
| Fish (EP) Fish (EP) Fish (EP) Frod Handling (EP) Frod Handling (EP) Reduction of Residue Proposed Tolerances Reasonable Grounds in Support of the Petition  Hypendix C  Appendix C  Appendix C  Appendix D  Appendix B  Append | 444                  | Crop Field Trials (TEP) Processed Food/Feed (EP) Meat/Milk/Poultry/Eggs (TGAI or Plant Metabolites)              | +++           | Appendix B<br>Appendix B<br>40532001-3 | 2/23/88                        | R.D. 855                         | Monsanto                         | NFIDENT       |
| Food Handling (EP) Reduction of Residue Proposed Tolerances 2 Reasonable Grounds in Support of the Petition 3  | 4171<br>4171<br>4171 | Potable Water (EP) Fish (EP) Irrigated Crops (EP)  | ***           | Appendix C<br>Appendix D<br>Appendix B |                                |                                  |                                  | IAL           |
|  | 171-5                | Food Handling (EP) Reduction of Residue Proposed Tolerances Reasonable Grounds in Support of the Petition        | NR S S        |  |                                |                                  |                                  | N.            |

0310:0049

<sup>&</sup>lt;sup>1</sup> Directions for Use are contained in the product label.
<sup>2</sup>Propsed Tolerances are contained in Section VII of this submission
<sup>3</sup>Reasonable Grounds in Support of the Petition are contained in Section VIII of this submission

The Not Required / See Explanation Sheet

## 40 CFR 158.240 RESIDUE CHEMISTRY

171-4 Food Handling (EP)

171-5 Reduction of Residue

Data on residues in food or feed in food handling establishments are required whenever a pesticide is to be used in food/feed handling establishments. Glyphosate end-use products are not used in such establishments.

Reduction of residue is required when the assumption of tolerance level residues results in an unsafe level of exposure. The registered uses of glyphosate do not trigger this requirement.

CONTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY

| OTHERWISE WADE SECRET                      | APPENDIX<br>EPA<br>Reference | A<br>Submission | CONTAINS TRADE SECRET COR OHIGEWISE CONTIDENTIAL INFORMATION OF MONSANTO COMPANY DATA | 3 ,           |
|--|------------------------------|-----------------|---|---------------|
| Nature of Residue:<br>171-4 Plants (PAIRA) |                              |                 | Owner Author  | Authorization |
| Corn                                       | 094181                       | 12/23/75        | Monsanto  | 27            |
|  | 094164                       | 12/23/75        | Monsanto  |               |
| Wheat                                      | 094181                       | 12/23/75        | Monsanto  |               |
|  | 094164                       | 12/23/75        | Monsanto  |               |
| Soybeans                                   | 094181                       | 12/23/75        | Monsanto  |               |
|  | 094164                       | 12/23/75        | Monsanto  | 18            |
| Cotton                                     | 094181                       | 12/23/75        | Monsanto  |               |
|  | 094164                       | 12/23/75        | Monsanto  |               |
| Grapes                                     | 094264                       | 10/04/74        | Monsanto  | 1 1           |
| Citrus                                     | 094958                       | 91/61/10        | Monsanto  |               |
| Colfee                                     | 096177                       | 91/10/90        | Monsanto  |               |
| Sugarcane                                  | 095141                       | 03/01/76        | Monsanto  |               |
| Poune finit                                | 095271                       | 97.710760       | Monsanto 0330:0049  | 0049          |
| For age grasses & Legames                  | 1607.60                      | 87.782770       | Monsanto  |               |

## OR OTHERVASE CONFIDENTIAL INFORMATION OF MONSANIO COMPANY

## APPENDIX A

| 40 CRF 158.125<br>Study Description                         | EPA<br>Reference<br>Number | Submission<br>Date | Data<br>Owner   | Authorization |
|---|----------------------------|--------------------|---|---------------|
| lature of Residue:<br>71-4 Plants (PAIRA)                   | *                          |                    |   |               |
| Sugar beets   | 096684                     | 12/09/77           | Monsanto  |               |
| Nut Crops   | 095663                     | 11/30/76           | Monsanto  |               |
| <u> </u>  | 095704                     | 12/31/76           | Monsanto  |               |
| Vegetables  | 096398                     | 10/15/77           | Monsanto  |               |
|   |                            | *                  |   |               |
| 000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000 |                            |                    |   |               |
| ON ON PARTY OF  | & ALL                      |                    |   |               |
|   | A TORICAL CO.              |                    | CONTAINS TRADE S OTHERWISE CONT INFORMATION MONSANTO CO | OF OF         |
|   |                            |                    |   | 0340:0049     |
| Й-Итртогод ј Abjiosare                                      | 229787                     | 05/10/77           | Monsanto  |               |
|   | li ad a                    | = 2,0              |   |               |

## APPENDIX B

| 40 CRF 158.125<br>Study Description  | Reference<br>Number | Submission<br>Date   | Data Owner Authorization     |
|--|---------------------|----------------------|------------------------------|
| lagnitude of Residue:<br>71-4 Crop Field Trials (TEP)  |                     |                      |                              |
| Corn   | 095787              | 07/12/74             | Monsanto                     |
|  | 232683<br>232519    | 12/12/77 12/09/77    | Monsanto<br>Monsanto         |
| State of the state | 222755<br>238167    | 12/19/75<br>03/30/79 | Monsanto<br>Monsanto         |
| Wheat  | 095787<br>071296    | 07/12/74 12/02/82    | Monsanto<br>Monsanto         |
| Soybeans   | 095787<br>096191    | 07/12/74 06/17/77    | Monsanto<br>Monsanto         |
| 0.298  | 232680<br>222753    | 12/12/77<br>02/19/73 | Monsanto<br>Monsanto         |
| Oats   | 095787              | 07/12/74             | Monsanto                     |
| Rice Zight   | 095787              | 07/12/74             | Monsanto                     |
| Barley ROM   | 095787              | 07/12/74             | Monsanto                     |
| Sorghum (Milo)   | 095787<br>247659    | 07/12/74<br>06/04/82 | Monsanto Monsanto            |
| Grapes   | 094260              | 10/04/74             | Monsanto                     |
| Raisins  | 095703              | 12/31/76             | Monsanto                     |
| Citrus   | 094957<br>094958    | 01/19/76             | Monsanto<br>Monsanto         |
|  |                     | 035%0049             | OTHERWISE CONHIDITION OF 245 |

|   | : >        |
|---|------------|
|   | 1 =        |
|   | ٠ -        |
|   | : 4        |
|   | : 4        |
|   | : ₹        |
|   | ; <        |
|   | O          |
|   |            |
|   | : -        |
|   | : C        |
|   | :          |
|   |            |
|   | -          |
|   | : ~        |
|   | Š          |
|   | <i>'</i> — |
| 3 | : =        |
| - | <b>:</b> Ş |
|   |            |
|   | . <        |
|   | <u> </u>   |
| 3 |            |
|   | $\cup$     |
| , |            |
|   |            |

| 096191 06/17/77 Monsanto 099720 11/03/80 Monsanto 0991166 05/17/76 Monsanto 095141 03/01/76 Monsanto 095271 09/01/76 Monsanto 095633 11/30/76 Monsanto 095634 12/09/77 Monsanto 096684 12/09/77 Monsanto 096684 12/09/77 Monsanto 096684 12/09/77 Monsanto 096684 12/09/77 Monsanto  | 40 CRF 158.125<br>Study Description                  | EPA<br>Reference<br>Number | Submission<br>Date | Data<br>Owner Author  | Authorization |
|--|--|----------------------------|--------------------|---|---------------|
| 100  | agnitude of Residue:<br>71-4 Crop Field Trials (TEP) |                            |                    |   |               |
| 17,03/80   190 | Cotton   | 161960                     | 11/11/90           | Monsanto  |               |
| 095141 03/01/76 Mon 224884 08/02/76 Mon 095271 09/01/76 Mon 095271 09/01/76 Mon 095533 11/30/76 Mon 095504 12/31/76 Mon 096684 12/09/77 Mon 096684 12/09/77 Mon  |  | 099720                     | 11/03/80           | Monsanto<br>Monsanto  |               |
| 224884   08/02/76   Mon  | Coffee   | 096177                     | 92/10/90           | Monsanto  |               |
| 224884 08/02/76 Hon 095271 09/01/76 Hon 096996 03/01/79 Hon 095633 11/30/76 Hon 095704 12/31/76 Hon 096631 11/15/77 Hon 096684 12/09/77 Hon  | Sugarcane  | 095141                     | 92/10/60           | Monsanto  |               |
| 096271   09/01/76   Non   096996   03/01/79   Non   095633   11/30/76   Non   095704   12/31/76   Non   096631   11/15/77   Non   096684   12/09/77   Non   096684   12/09/7 | Palm Oil   | 224884                     | 08/02/76           | Monsanto  |               |
| 095633   11/30/76   Mon   095633   11/30/76   Mon   095704   12/31/76   Mon   096398   10/15/77   Mon   096631   11/15/77   Mon   096684   12/09/77   Mon   096684   Mon   09 | Pome Fruit   | 095271                     | 92/10/60           | Monsanto  |               |
| (grouping)     095704     12/31/76     Mon       d. leafy, foot)     096398     10/15/77     Mon       096631     11/15/77     Mon       096684     12/09/77     Mon       096684     12/09/77     Mon       096684     12/09/77     Mon   | Asparagus  | 966960                     | 03/01/18           | Monsanto  |               |
| (grouping)       1, leafy, root)     096398     10/15/77     Mon       096631     11/15/77     Mon       096684     12/09/77     Mon       096684     12/09/77     Mon       036684     12/09/77     Mon   | Nut Crops  | 095633                     | 11/30/76           | Monsanto  |               |
| (grouping) 1. leafy, foot) 096631 11/15/77 Mon 096684 12/09/77 Mon 096684 12/09/77 Mon   | Alfalfa  | 095704                     | 12/31/76           | Monsanto  |               |
| 096631 11/15/77 Mon<br>096684 12/09/77 Mon<br>096684 12/09/77 Mon  | (grouping  | 861960                     | 10/15/77           | Monsanto  |               |
| 096684 12/09/77 Mon 096684 12/09/77 Mon 0366:0049  | Avocados   | 169960                     | 11/15/77           | Monsanto  |               |
| 0360:0049  | Sugarbeets   | 096684                     | 12/09/77           | Monsanto  |               |
| 0360:0049  | Potatoes   | 096684                     | 12/09/77           | Monsanto  | i             |
|  |  |                            | 0360:0049          | CONTAINS TRADE SECRET OF THE WISE CONFIDENCE OF THE CONFIDENCE OF | a i           |

| (B)                   | Submission                            |
|-----------------------|---------------------------------------|
| APPENDIX E            | Reference<br>Number                   |
| ONFIDENTIAL INFORMATS | 40 CRF 158.128/Y<br>Study Description |

Magnitude of Residue: 171-4 Crop Field Trials (TEP)

Data

Authorization

| Forage Grasses        | 070083  | 05/08/81  | Monganto | *  |
|-----------------------|---------|-----------|----------|--|
| and Legumes           | 099625  | 04/28/78  | Monsanto |  |
| Tea                   | 245567  | 18/06/30  | Monsanto |  |
| Peanuts               | 0099306 | 02/18/80  | Monsanto |  |
| Stone Fruit           | 097735  | 12/15/78  | Monsanto |  |
| Bananas               | 098332  | 62/14/79  | Monsanto | #  |
| Plaintain             | 098332  | 06/14/79  | Monsanto |  |
| Olives                | 098332  | 06/14/79  | Monganto |  |
| Coconut, Coconut 0il  | 247004  | 03/09/82  | Monsanto |  |
| Cranberries           | 099624  | 08/01/60  | 1R-4     | 15   |
| Cilava                |         | 08/61/11  | IR-4     |  |
| Papaya                |         | 11/13/80  | IR-4     |  |
| (hemipite (grouping)  |         | 02/22/83  | IR-4     | CONTAINS TRADE SECRET OR OTHER WISE CONTINE. 1117.1  |
| Vegetables (grouping) |         | 69711750  | IR-4     | INIORMATION OF MONSANIO COMPANY  |
|                       |         | 0370:0049 |          | The second secon |

i

|                                       | Data<br>Owner              |
|---------------------------------------|----------------------------|
| <b>•</b>                              | Submission<br>Date         |
| APPENDIX C                            | EPA<br>Reference<br>Number |
| CC III ON OTHERWISE  O) MONEY IF INDE | Study Description          |

Authorization

| 171-4 Potable Water (EP)              |                  |                      |  |
|---------------------------------------|------------------|----------------------|--|
| Canals                                | 094684           | 09/25/75 09/25/75    | Public Document!                         |
| Flooded Levees                        | 094684           | 09/25/75             | Monsanto                                 |
| Ponds                                 | 094684           | 09/25/75<br>09/25/75 | Public Document <sup>2</sup><br>Nonsanto |
| Potable Water Treatment               | 095356           | 09/25/75             | Monsanto                                 |
| Ditchbank/Flowing Water               | 097660<br>097661 | 12/22/78             | Monsanto<br>Monsanto                     |
| Shoreline/Impounded Water             | 097660           | 12/22/78             | Monsanto<br>Monsanto                     |
| Total Area/Impounded Water            | 097660           | 12/22/78             | Monsanto<br>Monsanto                     |
| Whole Cross-section/<br>Flowing Water | 070110           | 18/62/90             | Monganto                                 |

CONTAINS TRADE SECRET CR OTHERWISE CONHISHMAL INFORMATION OF MONSANTO COMPANY

0380:0049

1/ R.D. Cowes. USDA/ARS. Prosser, Washington 2/ R.D. Blackburn. USDA/ARS. Fort Lauderdale, Florida

## APPENDIX D

| 40 CRF 158.130<br>Study Description         | EPA<br>Reference<br>Number | Submission                       | Data                             |               |
|---|----------------------------|----------------------------------|----------------------------------|---------------|
| Accumulation Studies:<br>165-4 Fish (PAIRA) |                            |                                  |                                  | Authorization |
| Rainbow Trout                               | 097762                     | 12/22/78                         | Monsanto                         |               |
| Largemouth Bass                             | 097762                     | 12/22/78                         | Monsanto                         |               |
| Channel Catfish                             | 246876                     | 12/22/78                         | Monganto                         | 3-5           |
| Bluegill Sunfish                            | 094171                     | 12/23/75                         | Monsanto                         |               |
| Crayfish                                    | 097762                     | 06/20/83<br>12/22/78<br>06/15/83 | Monsanto<br>Monsanto<br>Monsanto |               |
| Mollusks                                    | 097762                     | 06/20/83<br>12/22/78<br>06/15/83 | Monsanto<br>Monsanto<br>Monsanto |               |

COWN ON WE HOLE SECOL

CONTAINS TRADE SECRET OR DILIERWISE COPILE. ULA

INFORMS C. . MONSANIO COMIANY

0390:0049